American modern practiec [i.e. practice], or, A simple method of prevention and cure of diseases : according to the latest improvements and discoveries, comprising a practical system adapted to the use of medical practitioners of the United States : to which is added an appendix, containing an account of many domestic remedies recently introduced into practice, and some approved formulae, applicable to the diseases of our climate / by James Thacher.

Contributors

Thacher, James, 1754-1844.
Jewett, Adams
National Library of Medicine (U.S.)

Publication/Creation

Boston : Cottons & Barnard, 1826.

Persistent URL

https://wellcomecollection.org/works/q33pxkfd

License and attribution

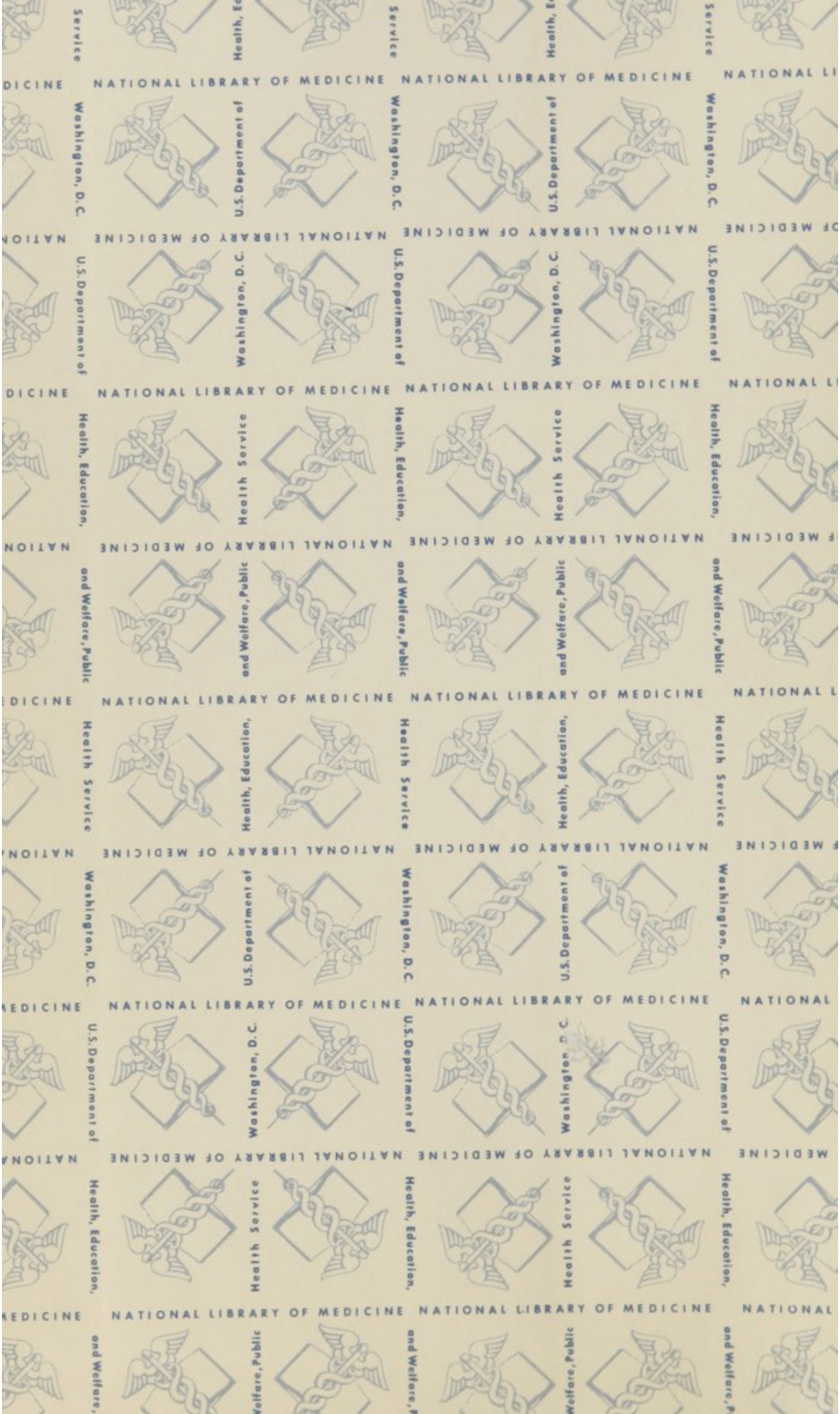
This material has been provided by This material has been provided by the National Library of Medicine (U.S.), through the Medical Heritage Library. The original may be consulted at the National Library of Medicine (U.S.) where the originals may be consulted.
This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

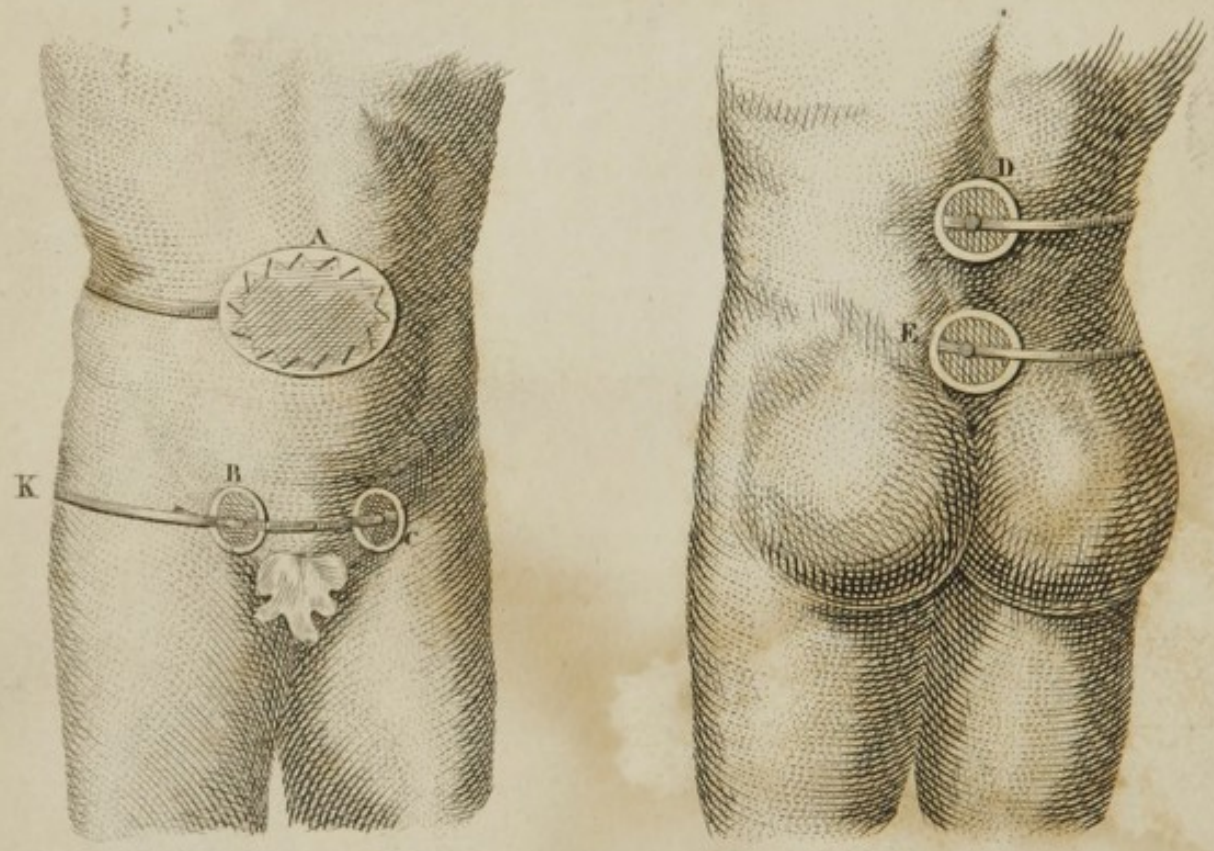
You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.

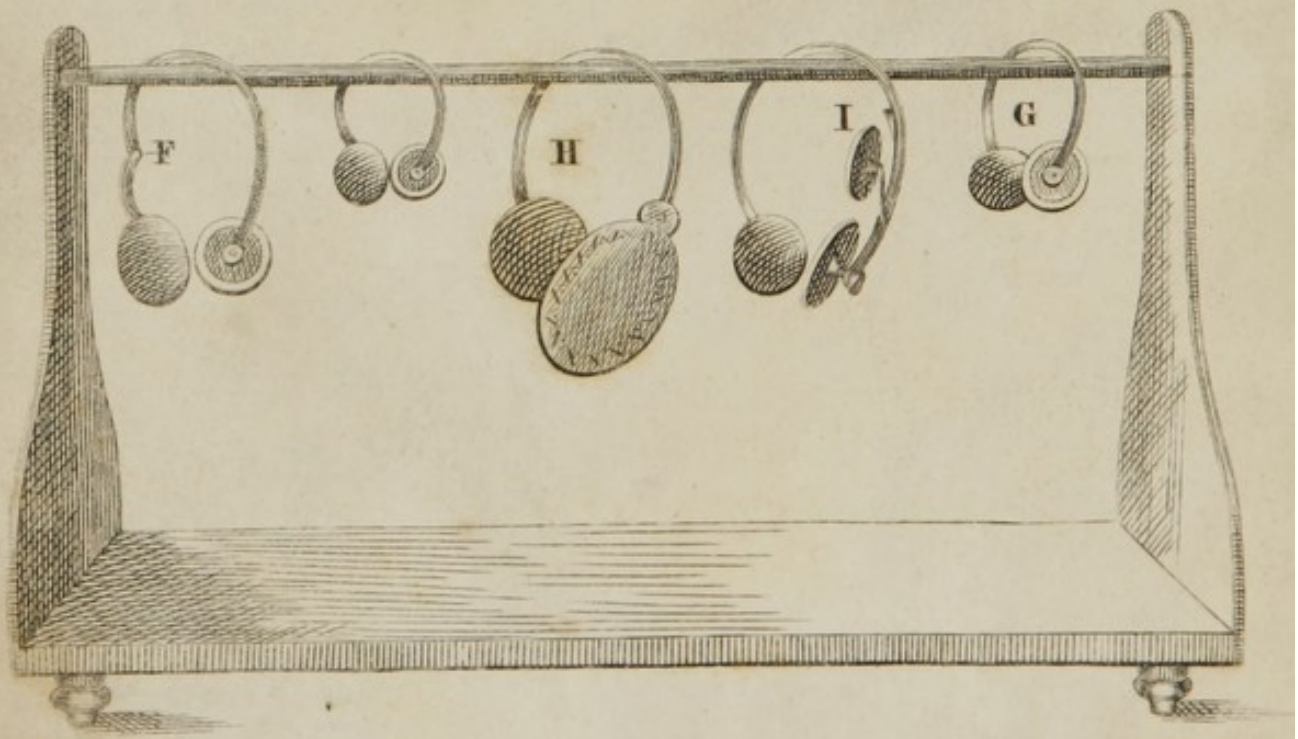
wellcome collection

Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
https://wellcomecollection.org

NATIONAL LIBRARY OF MEDICINE
Health, Education, and Welfare, Public Health Service
U.S. Department of Washington, D.C.


NATIONAL LIBRARY OF MEDICINE
U.S. Department of Health, Education, and Welfare, Public Health Service
Washington, D.C.


A
K
B
C
D
E


F
H
I
G

AMERICAN

MODERN PRACTIEC;

OR, A SIMPLE METHOD OF

PREVENTION AND CURE OF DISEASES,

ACCORDING TO

THE LATEST IMPROVEMENTS AND DISCOVERIES,

COMPRISING

A PRACTICAL SYSTEM

ADAPTED TO THE USE OF MEDICAL PRACTITIONERS OF THE UNITED STATES.

TO WHICH IS ADDED,

AN APPENDIX,

CONTAINING

AN ACCOUNT OF MANY DOMESTIC REMEDIES RECENTLY INTRODUCED INTO PRACTICE,

AND SOME

APPROVED FORMULÆ, APPLICABLE TO THE DISEASES OF OUR CLIMATE.

A new Edition, improved.

BY JAMES THACHER, M.D. A.A.S.
Author of the American New Dispensatory, and Observations on Hydrophobia.

"The young disease, which must subdue at length,
Grows with our growth, and strengthens with our strength." *Pope.*

SURGEON GEN'L'S OFFICE
LIBRARY
No. 24676
Washington, D.C.

BOSTON:
PUBLISHED BY COTTONS & BARNARD.

John Cotton, printer.
1826.

WB
T359a
1826

District of Massachusetts, to wit:

DISTRICT CLERK'S OFFICE.

BE IT REMEMBERED, that on the sixteenth day of September, A. D. 1826, and in the fifty-first year of the Independence of the United States of America, COTTONS & BARNARD, of the said District, have deposited in this office the title of a book, the right whereof they claim as proprietors, in the words following, to wit:—

"American Modern Practice; or, a simple method of Prevention and Cure of Diseases, according to the latest improvements and discoveries, comprising a practical system adapted to the use of medical practitioners of the United States. To which is added, an Appendix, containing an account of many domestic remedies recently introduced into practice, and some approved formulæ applicable to the diseases of our climate. A new Edition, improved. By James Thacher, M.D. A.A.S. Author of The American New Dispensatory, and Observations on Hydrophobia.

'The young disease, which must subdue at length,
Grows with our growth, and strengthens with our strength.'—*Pope.*"

In conformity to the Act of the Congress of the United States, entitled, "An Act for the Encouragement of Learning, by securing the Copies of Maps, Charts and Books, to the Authors and Proprietors of such Copies, during the times therein mentioned:" and also to an Act, entitled, "An Act supplementary to an Act, entitled, An Act for the Encouragement of Learning, by securing the Copies of Maps, Charts and Books, to the Authors and Proprietors of such Copies during the times therein mentioned; and extending the benefits thereof to the Arts of Designing, Engraving and Etching Historical, and other Prints."

JOHN W. DAVIS,
Clerk of the District of Massachusetts.

TO

DAVID HOSACK, M.D. F.R.S. L. and E.

Professor of the Theory and Practice of Physic and Clinical Medicine, in the University of the State of New-York.

DEAR SIR,

It is by your eminent standing in medical literature and general science, and your ardent efforts, so auspicious to the dignity and prosperity of our profession, and the medical character of our country, that I am induced to prefix your name to this work; and I avail myself of this occasion to express my sense of obligation for the numerous testimonials of your friendship and regard, which, without a personal acquaintance, have been so liberally rendered by you; for which I beg leave to proffer my grateful considerations, and to subscribe myself, with great respect,

Your very humble servant,

THE AUTHOR.

Plymouth; May 10, 1826.

PREFACE.

IT is confessedly a matter of regret, that a country, in which literature and science have been so honorably and successfully cultivated, should so long remain destitute of a systematic work on practical medicine. It may, however, be admitted in extenuation, that those most distinguished in the walks of science ; and who, by talent and experience, may be supposed best qualified for the important undertaking, are constantly subjected to urgent demands of professional duties, controlling the disposition of their time and inclinations. The position will undoubtedly be conceded, that the diseases peculiar to a country, are most judiciously treated by native physicians, who are particularly conversant with their true characteristics. However ample the attainments of the practising physician, or prompt his sagacity in recognizing diseases and their curative indications, every one must be aware of the aid to be derived from a practical system, when the energies of his mind are oppressed by a multiplicity of professional applications. To what source can such resort, with more confidence, than to the productions of those who have long laboured in the same field; whose whole lives have been devoted to similar pursuits : who have successfully encountered the same embarrassments, and sustained an equal weight of responsibility ?

Such has been the rapid progress of medical science, and such the essential improvements, effected by the zeal and talents of the professors and medical practitioners of the United States, within the last thirty years, that many periodical publications have been issued to record and promulgate important discoveries. These augment our materials for constituting a practical work, embracing, in a methodical view and condensed form, the principles of modern practice, every way adapted to the use of American physicians, and calculated for the meridian of the present day. Such is the object which the author has for years had in contemplation; and the fruits of persevering labour and research have now resulted in a compendium of the most modern and approved modes of treating the diseases of our country, and of the most judicious application of the medicinal productions of our own soil. The high responsibility which devolves on an author who undertakes to dispense instruction and rules of practice pertaining to health and life, cannot fail of prompting his solicitude to a conscientious discharge of duty: nor will his sense of the high obligations of honour and moral rectitude, permit aught to pass from his pen without the strongest conviction of its correctness and utility. Throughout the whole course of this compilation, the most substantial authorities have been consulted, such as no one, it is presumed, will be disposed to impeach, and under whose influence, even the wise and learned of the medical faculty will not disdain to prescribe. Dr. Thomas' *Modern Practice* has unquestionably acquired in this country its merited popularity and repute; but in this compilation there is an evident redundancy on the one hand, and a deficiency on the other, as respects American practice. Should it therefore be found that the present volume contains his appropriate practical precepts incorporated with our own improvements, it may with just propriety be recommended as a substitute for that English produc-

tion. Disclaiming all pretensions to theoretical explanations, and rejecting hypothetical disquisition as fallacious, I have directed my views simply to rules of practice. In preparing the present edition, I have consulted the most approved European authors, especially the very elaborate and erudite production of Dr. J. M. Good, and the valuable works of Drs. Parr, Armstrong, Abernethy, &c. But as respects the epidemic diseases with which our own country has recently been visited, precedence has been given to American authorities, as the surest guide to American practitioners; and those formidable epidemics which have justly excited the public interest and alarm, are portrayed in their true characters, with their medical treatment, according to the views of the most judicious and experienced physicians.

It is not without mature deliberation, that I have adopted the nosological arrangement of Professor Hosack in preference to others, as its pathological arrangement is well adapted to practical purposes, and it coincides with my views in making this work more completely American. The nosology of the learned Dr. John Mason Good so greatly abounds in new technical language, that many students, it is understood, have actually recoiled from the labour required to comprehend it as a practical system.

In treating of the various subjects, I have been solicitous to adopt a concise and perspicuous style of language, divested as much as possible of technical terms, where others equally clear and expressive can be applied. However obnoxious this mode may be to the censure of the classical and scientific, it will not, it is presumed, appear objectionable to a majority of my readers, especially those who reflect, that whatever relates to the health and life of man, cannot be exhibited in too plain a garb, or explained in too clear a light. Thus every class of readers may obtain a knowledge of those causes which produce, and those

remedies which mitigate and relieve, the various diseases to which they are liable.

The author cannot but indulge the hope that this work will be found calculated to assist those practitioners whose retired residence may preclude them from the most ample sources of information, as well as the junior class who are about commencing their professional career, as the pledge and hope of the rising generation. To inculcate the high importance of a complete medical education, agreeably to the established rules of our universities and medical institutions, and to discountenance the attempt of the illiterate, who would thrust themselves into medical practice, are among the primary objects of this production. In the Appendix will be found a collection of formulæ for the convenience of the young practitioner.

In collating scattered materials from preceding writers and loose notes, it was scarcely practicable, in every instance, to designate with the usual marks of quotation, and it is hoped that no censure will be incurred by the omission. If by indefatigable industry and laborious research, the author has merited any share of praise or patronage, it only remains to solicit indulgence in regard to imperfections and errors.

INTRODUCTORY.

HISTORICAL SKETCH OF MEDICAL SCIENCE, AND THE SOURCES AND MEANS OF MEDICAL INSTRUCTION IN THE UNITED STATES.

AMONG the various sciences and literary pursuits of life, there is no one more pre-eminently important than that which is emphatically styled the healing art; that which brings health and joy to mankind. It is an inestimable blessing, bestowed in mercy, to counterpoise the frail condition of our nature, and to meliorate or remedy the miseries which result from the indulgence of our vicious propensities. It assuages the anguish of corporeal disease, and soothes that keen mental distress, which overwhelms the faculties of the soul. "Two thousand years ago, no fewer than three hundred dangerous diseases, besides their various species and degrees, were discovered by physicians; and even now, new diseases are every day making their appearance."

It would be a pleasant and useful speculation, to trace our art from its crude and embryo state, to its present condition of improvement and maturity; but a cursory retrospect only will comport with our present plan.

When we contemplate the condition of the inhabitants of the earth in the primitive ages of the world, we are struck with the formidable embarrassments which they were doomed to encounter. Unacquainted with the means of fortifying themselves against the numerous evils of life, they were continually exposed to casualties and disease, and at the same time destitute of such assistance as would afford the desired relief. Ignorant of the structure of the human frame, and of the laws of the animal economy, no rational method of cure could be devised, and their medical knowledge

could consist only of an incongruous mixture of superstition and absurdities.

The primitive inhabitants, however, were blessed with firm original stamina, robust and vigorous constitutions, and were provided with plain and simple food for their subsistence; either the spontaneous productions of the soil, or the easy acquisitions of agriculture. The climates, which they enjoyed, were probably of a mild and genial temperature, the air pure and serene, and the natural means of health and comfort, their peculiar patrimony. While, therefore, they observed the rules of sobriety and temperance in their living, according to the dictates of nature and right reason, and adhered to the principles of morality and virtue, their diseases could be neither so numerous, nor so complicate and difficult, as to require profound skill for their removal.

It is, nevertheless, presumable, that this happy condition of the human race was not of long continuance; but that a corruption of manners was gradually introduced, and the seeds of diseases sown either by irregularity or unavoidable incidents, and fostered by the baneful influence of effeminate and luxurious gratification. If, while in the salutary pursuits of pastoral life, men generally enjoyed an uninterrupted state of health; by a departure from the virtuous habits of such a life, and by yielding to temptations, and the corrupt propensities of nature, their constitutions became impaired, and the first principles of disease were engendered and nourished.

In consequence of these powerful causes, and the influence of others of a physical nature, operating in conjunction, the system of individuals acquired a disposition to diseases, which could not fail of being disseminated among the people, and entailed, through their offspring, to succeeding generations. Although accustomed to the event of death by fatal accidents, or old age, the novel and affecting scenes exhibited, when diseases terminated in the extinction of life, must have excited, among the early inhabitants of the earth, an uncommon degree of consternation and alarm; and being altogether ignorant of the true causes, which generated them, they would probably ascribe such extraordinary phenomena to some supernatural power. Prompted by a spark of that reason implanted in the breast of man for his preservation, as the first principle in nature, they endeavored to obtain from the most probable sources a remedy for their diseases; nor are we to be

surprised that the human mind, influenced by superstition, and untaught by experience, should associate the idea of religion with medicine, and resort to charms and incantations, in full confidence of accomplishing their desired purpose of preventing and curing every malady.

Such, in fact, was the melancholy predicament of our species during the early part of their history. Ignorant priests, magicians and astrologers were their only physicians, and the superstition of the times animated their hopes, while it gave a sanction to the grossest impositions. If, under infatuation and despair, consolalation could have been derived from these sources of folly, fatal experience must soon have taught the sufferers that a cure of their maladies was to be effected by more potent remedies than those of sorcery and enchantment. In process of time, therefore, an expedient suited to their circumstances was put in practice for the attainment of medical knowledge. The sick were directed to be exposed in public places to the view of travellers and strangers, who were required to examine and compare their cases with such as might antecedently have fallen under their observation, and to recommend such remedies as had been known to produce beneficial effects in similar complaints. And when discoveries were thus made, the precious remedies were held in veneration, and the knowledge of them was conveyed by oral tradition, or recorded upon pillars in the most public places, or on the walls of the temples dedicated to the God of health: and afterwards registers of cures were kept in those consecrated places for the general good of mankind.

Thus was the practice of physic commenced under no other advantages, than the simple principle of analogy; and many ages elapsed before this abstruse and important science was placed upon a more solid foundation. The Egyptian medicine appears to have been little else than a collection of absurd superstitions. Among the Greeks, Æsculapius was the most celebrated of those to whom they attributed the invention of physic. He was accounted the most eminent practitioner of his time, and his name continued to be revered after his death. He was even ranked among the Gods, and the principal knowledge of the medical art remained with his family till the days of Hippocrates, who reckoned himself the seventeenth in a lineal descent from Æsculapius. We are not furnished with a correct series of information relative to medical

history, until about four hundred and fifty years prior to the Christian era, when, amidst a cloud of darkness and ignorance, the superior wisdom and brilliant talents of the great HIPPOCRATES were displayed to the world. Under the auspices of this Prince of Physicians, the healing art first assumed the form of science, and was known and practised as a regular profession. In the treatment of diseases, he studied and copied nature, with the greatest care and assiduity, as the only sure basis of medical science; and so extensive was his knowledge, and so accurate his observations, that he has been constantly held in veneration through succeeding generations. His numerous writings on medical subjects remain a monument of his penetration and judgment, and are considered, by the learned, as replete with lessons of instruction, even at the present day. By his unparalleled industry and perseverance, this father of medicine acquired a character and fame, which united the applause of nations around him, and divine honors were consecrated to his memory.

A medical school was instituted at Alexandria in Egypt, which was conducted by the most learned professors of that early period. Dissections and the study of anatomy and surgery were practised and patronized, and the institution, which flourished near a thousand years, has been renowned in history as the earliest and most important seat of medical literature and science. It was here that Herophilus and Erasistratus were distinguished for the vast number of human subjects, which they dissected, and for their important contributions to anatomical knowledge. But they were accused of procuring access to the springs of life by the reproachful practice of employing the knife upon the living bodies of criminals.

GALEN, a man of signal talents and a disciple of the Alexandrian school, whose life was devoted to the study and pursuit of medical science, was another celebrated name among the physicians of antiquity. He collected and arranged the rich treasures of medical knowledge, which the labours of preceding ages had acquired, and made considerable improvement on the original stock. He is said to have been the author of five hundred volumes on medical subjects, and, with the exception of Hippocrates, was esteemed the greatest physician of antiquity. So surprising were some of the cures which he performed, that his skill was ascribed to magic. Although he introduced a false and chimerical theory, and indulged in the most extravagant disputations respect-

ing medical subjects, so high was the authority of his name, that, for about fourteen centuries, his systems and doctrines were most sacredly adhered to and reverenced by all descriptions of men.

In the early part of the 16th century, the noted PARACELSUS flourished, as a physician and chemist. He laid the foundation of a chemical system, directly opposed to that of Galen, which he resolved to subvert. The principal remedies which he employed, were mercury and opium, and the success of his practice extended his fame and celebrity, and inspired confidence in his system. He was an enthusiastic labourer in the cause of the alchymists, and boasted of being in possession of the philosophers' stone. He travelled through almost every country of Europe, consulting indifferently physicians, barbers, old women, conjurers, and chemists. In the height of his prosperity he was appointed to deliver lectures in the town of Basle, in Switzerland, and was the first public professor of chemistry in Europe; but he soon quarrelled with the magistrates about a medical fee, and left the city. He was extremely dissolute and eccentric in his manners and character. While seated in his chair as professor, he burned with great solemnity the writings of Galen and Avicenna, and declared to his audience, that, if God would not impart the secrets of physic, it was perfectly justifiable to consult the Devil. He invented an *elixir proprietatis*, which he termed the elixir of life, for the professed purpose of procuring longevity, and pretended that, by the use of it, his life would be protracted to the age of Methuselah. Continuing to ramble about the country, he sunk into the deepest dissipation, being scarcely ever sober, and never changing his clothes, nor sleeping in a bed, neither the counsel of the Devil, nor his universal elixir conferred on him his boasted gift of immortality, and he died in a hospital in the 48th year of his age. The quacks and empirics of the present day may probably trace the origin of their craft, and vaunted nostrums, to the vagaries of their great master, Paracelsus.

Notwithstanding the whole life of Paracelsus was a tissue of blunders and vice, it is acknowledged that his talents were great, and that his labours were not entirely useless. Having carried his speculations concerning the philosophers' stone and the universal remedy to the greatest height of absurdity, and having, in his own person, exemplified the ideal pursuit, he contributed more than any man to their disgrace, and subsequent banishment from the sci-

ence, and at the same time, gave a favourable impulse to the true principles of chemistry.

Vesalius, professor of anatomy in the University of Padua, and Michael Servetus, a Spanish physician, were about this era, distinguished for their medical abilities and erudition, especially for their attainments in anatomical knowledge. Boldly controverting the principles on which Galen had founded his system, and which were then deemed inviolable, these ingenious men soon developed and exposed the errors of their great predecessor, and during this investigation, Servetus actually discovered, in the year 1553, the course of the blood through the lungs, which is termed the lesser circulation. But, unfortunately for Servetus and the medical world, his love of controversy and ardour of temper involved him in a dispute with *John Calvin*, the celebrated religious reformer, which eventuated in a cruel sentence of death against him for heresy; and this valuable man, together with his writings, was, at the age of about 45 years, consigned to the flames.

It is matter of wonder and astonishment, that, after the commencement of human dissections by Democritus, the cotemporary and friend of Hippocrates, two thousand years should elapse before the very important discovery was made of the true circulation of the blood. But this luminous event was greatly retarded by a scrupulous adherence to the errors of Galen and his followers, who attributed to the liver the office of preparing the blood and transmitting it through the veins to all parts of the body, conceiving that air was contained in the arteries, and that the veins were the only true channels of the blood. It was also the opinion of some, that the blood moved forward and backward like the ebbing and flowing of the tide.

In the early part of the 17th century, Fabricius, a learned Italian physician, announced his discovery, that the veins were furnished with valves, the mechanism of which precluded the possibility of their performing the office which the ancient doctrine had assigned them; the valves admitting the progress, but obstructing the regress, or return of the blood. This perplexing dilemma did not escape the observation of the sagacious Dr. William Harvey, an English physician, who had been a pupil of Fabricius. Unbiassed by the doctrines of the ancients, and inattentive to the errors of his immediate predecessors, this ingenious anatomist availed himself of established principles, and commenced his in-

vestigation of the structure and functions of the heart and arteries. Apprized of the fact that two ounces of blood is received into the heart and projected into the aorta, at every pulsation, his natural inquiry was, whence is this blood received, and how is it disposed of, unless by a regular course of circulation? Having, therefore, tied an artery, the corresponding vein received no blood; but, making a vein the subject of the same experiment, all its branches and the corresponding artery instantly became distended with that fluid. Animated by this successful experiment, he was induced to prosecute his inquiries with unremitting industry, for several years. His efforts were at last crowned with the attainment of their noble object, and it has been received as an invaluable acquisition to the science of medicine. In the year 1628, his new theory of the circulation of the blood became the subject of his lectures, and, by numerous experiments, he demonstrated the phenomena in a manner the most convincing and satisfactory. Such is the ignoble spirit of jealousy and envy, that it is not usually the fate of novel doctrines, however important, to be received without opposition; accordingly we find that there were some, who, biassed by passion and interest, had the boldness to deny the facts so fairly proved, and to calumniate the name of the illustrious Harvey. Every argument against him was, however, completely refuted and silenced, and his new principles of circulation universally established before the termination of his honourable life. It is observed by a judicious writer, that "the books of Harvey present us with many indications of a great mind, acute discernment, unwearied application, original remark, bold inquiry, and a clear, forcible and manly reasoning." He was not less distinguished for his piety, than for his erudition, and, at the close of his useful life, he was consoled with the reflection, that the spirit of malevolence, so hostile to his merit and fame, became attempered to the grateful duty of enhancing and perpetuating the honour justly due to his character. Great and manifold are the advantages derived to mankind from the ingenious labours of the immortal Harvey. His splendid discovery, which had eluded the research of ages, subverted the fallacious doctrines of the ancients, and, at once, effected a total revolution in the theory and practice of medicine. Of all the transactions recorded in medical history, this is incomparably the most essential in its effects and consequences. Medical, like all other knowledge, is progressive, and the melancholy triumph of

disease over its victims, and the numerous reproachful examples of medical impotency, clearly evince that the combined stock of both ancient and modern learning is greatly insufficient to perfect our science.

From the commencement of medical history, revolutions in the theories of physic have been extremely numerous and fleeting. Many of them were no other than visionary hypotheses, emanating from perverted imaginations, unconnected with facts, and utterly repugnant to the plainest dictates of observation and experience. An appropriate disquisition on the various systems and rotations of systems, which have prevailed, will not comport with the plan of this sketch. The reader may consult the writings of Boerhaave, Cullen, Rush, and the several Encyclopædias, where the versatility of human systems is abundantly displayed. Every age has teemed with the controversies of the learned; and while ambitious projectors imagined they had attained to perfection, their cotemporaries or immediate successors contested their principles, and triumphed over their errors; hence we see theories which scarce survive their authors, give place to others as transient and unsubstantial as themselves. In consequence, however, of diligent and learned research, and of emulation among medical philosophers, new and important facts have been developed, and the restoring art has reached its present honourable and dignified rank among the sciences. Far indeed beneath the standard of perfection, it is still fraught with deficiencies, and altogether inadequate to our desires. To what extent the frail condition of human nature is capable of being meliorated, and existence protracted by the application of the principles of medicine, must be reserved to the wisdom and industry of future generations to determine. It is nevertheless incumbent upon us to consecrate our talents to this noble science, duly to appreciate and exalt its merit, to cherish its dignity, to study and improve its principles, and to cultivate a religious sense of the inestimable blessings which mankind derive from its influence.*

While medical philosophers laboured with unceasing assiduity and zeal for the promotion of the science, its progress was imped-

* So great, says the pious Dr. Rush, are the blessings which mankind derive from the healing art, that if every other argument failed to prove the administration of a Providence in human affairs, the profession of medicine would be fully sufficient for that purpose.

ed by the preposterous edicts of sovereigns and legislatures. In the 16th century the Emperor Charles 5th, although addicted to crimes of the blackest stain, ordered an assembly of divines to deliberate whether it were lawful, in point of conscience, to dissect a dead body. During the same reign a violent controversy subsisted respecting the question whether, in a pleurisy, blood should be drawn from the arm of the affected side, according to Hippocrates, or from the opposite side. The University of Salamanca, in Spain, decided by a decree, that no one should dare to let blood but from the contrary arm, alleging that the other method was of no less pernicious consequence to medicine, than Luther's heresy had been to religion. That eminent and indefatigable physiologist, Baron Haller, was obliged to flee the city of Paris, to avoid prosecution for dissecting dead bodies; yet his ardour was not diminished, and he found means to dissect three hundred and fifty human subjects and a vast number of the brute creation, some of them while alive. The science of medicine is greatly indebted to the zeal and ability of this illustrious man.

In some countries, laws have been enacted, obliging physicians to adopt, in all cases, the prescriptions which had been collected and approved by the physicians of former ages. During the prevalence of a malignant fever in Barcelona, a few years since, the Court of Madrid, as is related, wrote the prescription, and, by the command of his Catholic Majesty, the physicians were ordered to adhere to it, and forbidden to prescribe any thing else. Such bigoted and illiberal procedure could not fail of suppressing the spirit of investigation, and of presenting insuperable obstacles to that progressive improvement so ardently desired by every friend of medical science. With respect to the medical history of our own country we can only infer from a few scanty records and from tradition, that for many years after the settlement of the colonies the practice of medicine was with few exceptions united with the ordinary parochial duties of the ministers of religion, who were thus enabled in a double capacity to administer spiritual cousolation and soothe the bed of death. More exalted indeed were their avocations than that of the ancient priests of Egypt, of Greece and Rome; for it was deemed indispensable for clergymen to acquire a knowledge of practical medicine, that they might discharge the duties of piety and humanity to their suffering brethren; and although not endow-

ed with high attainments in medical science, they were nevertheless qualified for great usefulness in their respective stations. Altogether unlike the ignorant empirics of later times, they were actuated by the purest motives, and the highest considerations of benevolence. By their amiable manners, zealous attention, and pious converse they endeared themselves to their people, mutual attachments were formed and the fullest confidence reposed in their medical skill. The first settlers being exposed to extreme hardships and to famine, were frequently afflicted with alarming and fatal diseases, which at some periods threatened almost a total extinction of their population. At different periods from 1678 to 1702, the small pox spread through the colonies, and from the injudicious method of treatment, its effects were like a mortal scourge wherever it appeared. We find on record the names of some respectable physicians who emigrated with, or soon followed the first adventurers to America. The first whose name we find on record, was Dr. Samuel Fuller, being a deacon of the Rev. John Robinson's Church, he formed one of the company who landed at Plymouth, December 22d, 1620. He is said to have been well qualified in his profession, and eminently useful as a surgeon and physician: extending his benevolent labours not only to the sick among his immediate friends at Plymouth, and the aborigines in the vicinity, but by the desire of Governor Endicot, twice visited the new settlement at Salem, where he manifested his skill and success in practice, among the numerous sufferers under the scurvy, and other diseases. Although Harvard College was founded at Cambridge as early as 1638, many years elapsed before any considerable number of physicians could receive a complete medical education in the country, and for more than a century and a half after the first settlement, most of the more respectable medical characters were either Europeans or gentlemen sent from hence to complete their education in foreign universities. We are not to be surprised, therefore, that few publications on medical subjects were known in America during that early period. The first of this description in Massachusetts was entitled "*A Brief Guide in the Small Pox and Measles*," published in 1677, by Thomas Thatcher, a clergyman and physician of Boston, who is spoken of as the best scholar of his time.

The communication of the small-pox by inoculation was introduced in Boston in 1721, under the influence and patronage of Dr. *Cotton Mather*, a celebrated divine. The novelty of the subject and the strong prejudices then subsisting, occasioned much public agitation, and soon involved both clergymen and physicians in a spirited but illiberal controversy, relative to the propriety of thus experimenting with the lives and health of their fellow men. The clergy of Massachusetts were, for the most part, zealous supporters, while some of the medical faculty were violent opposers, of inoculation. Among the latter are mentioned Lawrence Dalhound, a Frenchman, William Douglas and Joseph Marrion. Dr. *Zabdiel Boylston*, a man of liberal views, and great literary acquirements, having obtained information by the transactions of the Royal Society of London, of the successful practice of inoculation by Timonious of Constantinople, in 1713, and being warmly supported by Dr. Cotton Mather, resolved to surmount every obstacle, even at the risk of his popularity, and his life.* He selected as the subjects for his first experiment, three of his own family, an only son and two servants. In these cases he was completely successful which had the happy tendency not only to confirm in his own mind the safety and utility of inoculation, but to quiet the fears of others. During the years 1721 and 1722, he inoculated 247 persons, and 39 were inoculated by others. Of this number only six died; while of 5759, who in the same period took the disease the natural way, 844 died.

Dr. Boylston visited London in 1725, where he was highly respected, and was honoured by being elected a fellow of the Royal Society. He published in 1726 an historical account of inoculated small-pox in New-England, and lived to witness the extensive and very important effects of his intrepidity and perseverance in his professional duty. The practice extended, by degrees, through New-England to New-York and Philadelphia, and finally to Charleston, South-Carolina, where it was partially adopted in 1738. Dr. William Douglas, a native of Scotland, and a reputable practitioner of physic in Boston, wrote essays respecting the small-pox in 1722

* Dr. Boylston for his innovation in practice suffered the resentment of his professional brethren, and the greatest indignity from an enraged populace, being pelted with stones as he walked in the street, and his windows were broken by a mob in the night.

and 1730. Another publication on the same subject, by Dr. Nathaniel Williams, a learned physician, a celebrated chemist, and an useful preacher, appeared in 1742.*

Among the earliest American publications, was an essay on the *Iliac Passion*, by Dr. Cadwallader, of Philadelphia, printed about the year 1740. Dr. Tennent, of Virginia, produced about the same time a work on pleurisy, in which he brought into view the virtues of the *Polygala Senega* or Seneca snake root, which was before unknown. This was followed by an ingenious essay on the causes of the different colours of people, in different climates, by Dr. John Mitchill, of Virginia, who also wrote on the yellow fever as it appeared in Virginia in 1742. This last was not published, but his valuable manuscripts were communicated to Dr. Rush through the hands of Dr. Franklin. Dr. Thomas Bond, an eminent physician of Philadelphia, was, about this time, author of some useful medical memoirs, which were published in a periodical work in London. In 1743, Cadwallader Colden, Esq. Lieut. Governor of the Province of New-York, and a distinguished physician, communicated his thoughts on the most probable method of curing a malignant fever which occasioned great mortality in that city in 1741. He also published a treatise on the cure of cancer, and an essay on the virtues of the great water dock, which introduced the learned author to the celebrated Linnæus. The same author published in 1753 some observations on an epidemical sore throat, which appeared in Massachusetts, and had spread over a great part of North America. Dr. John Bard, eminently distinguished as a practitioner in New-York for more than fifty years, was the author of an interesting account of the malignant pleurisy, which prevailed at Long-Island in the year 1749, besides some other medical papers. About the year 1750, Dr. Benjamin Gale, of Connecticut, considerably distinguished for his skill and acquirements, published several of his productions; among which was a dissertation on the inoculation for the small-pox in America, in which he advocated the utility of a course of mercury, as a preparative, affirming that, before that practice was adopted in the year 1745, one in a hundred of the inoculated died; but of those who afterwards were the subjects

* Much of this information has been obtained from Dr. J. Bartlett's Dissertation on the progress of Medical Science. See Med. Communications. Mass. Med. Soc.

of this new method of treatment, one only in eight hundred died. Another production on the same subject, and inculcating a similar mode of practice, appeared in 1760, by Dr. Thompson, of Pennsylvania. It appears that, in 1752, of five thousand five hundred and forty-four persons, who were the subjects of the small-pox in the town of Boston, the natural way, five hundred and fourteen died, and the whole number of inoculated persons was two thousand one hundred and thirteen, of whom thirty died.

The first public hospitals for small-pox inoculation, of which we have any account, in New-England, were opened in the vicinity of Boston, 1764; one at Point Shirley, by Dr. William Barnet, from New-Jersey, and another at Castle William, by Dr. Samuel Geltson, of Nantucket. Mercury was, at this period, in the highest repute for its supposed specific powers, as an antidote to the variolous poison, and it constituted a part of the preparatory course of every experienced inoculator.

About the year 1748, Dr. John Lining, of South-Carolina, published an accurate history of the American yellow fever, which was the first on this subject that issued from an American press. Dr. Lionel Chalmers, of the same place, in 1754 communicated to the Medical Society of London some useful remarks on *Opisthotonus* and *Tetanus*, and the same gentleman published also an essay on fevers in 1767. Dr. Garden, a respectable physician of South-Carolina, presented to the public in 1764, an account of the medical properties of the *Spigelia Marilandica*, or Carolina Pinkroot, with a botanical description of the plant. About the same time, Dr. Ogden, of Long-Island, favoured the public with some valuable observations on the malignant sore throat. Dr. Peter Middleton, a man of great professional talents, and Dr. John Jones, a distinguished surgeon, both of the city of New-York, were authors, the former of a medical discourse or historical inquiry into the ancient and present state of medicine, published in 1769, and the latter of an excellent work on wounds and fractures, designed chiefly for the use of the surgeons of the revolutionary army. In 1769, some observations were published by Dr. John Kearsley, jr. of Philadelphia, relative to *Angina maligna*, or the putrid and ulcerated sore throat, which prevailed in 1746 and 1760. It extended, says the author, through the neighbouring Provinces, with mortal rage, in opposition to the united

endeavors of the faculty. It swept away all before it, baffling every attempt to stop its progress, and seemed, by its dire effects, to be more like the drawn sword of vengeance, to stop the growth of the colonies, than the natural progress of disease. Villages were almost depopulated, and numerous parents were left to bewail the loss of their tender offspring.

In the years 1775 and 1776 the small-pox made its appearance in the form of an epidemic, and hospitals for the purpose of inoculation were again established in various parts of Massachusetts, particularly at Cambridge and Brookline, by Drs. Isaac Rand, William Aspinwall, and Lemuel Hayward, by whom more than two thousand persons were inoculated in one year, and by whose successful mode of treatment, the practice of inoculation was greatly encouraged, and its benefits extensively diffused. The high confidence which had long been reposed in the efficacy of a mercurial course, was now considerably diminished and practitioners were daily strengthened in the opinion, that success depended principally on the cooling regimen, air, and antiphlogistic diet, with which it was accompanied. The small-pox again visited the town of Boston, it is hoped for the last time, as an epidemic, in 1792. The whole town was inoculated in three days, to appease the infatuated temper prevalent among the inhabitants, with respect to the danger of infection; as the preposterous opinion had long been generally entertained that the small-pox infection is capable of spreading far and wide, through the medium of the air, as a most deadly pestilence. The hurry and confusion in which inoculation was resorted to, on this occasion, precluded the possibility of affording, in every instance, the requisite attention, and of prescribing the most judicious and eligible mode of procedure, Nine thousand one hundred and fifty-two persons were the indiscriminate subjects of inoculation, and one hundred and sixty-five deaths were the consequence. These, however, were chiefly the children of poor families, many of whom were destitute of the comforts of life. Little reliance was now placed on the specific action of mercury in this disease. In many instances it was entirely dispensed with, and shortly after altogether exploded.

The hospitals and camps of our army afforded a new field and more ample scope for improvement in the knowledge of medicine and surgery than had ever before been exhibited in our country.

Through the wisdom and prudence of the Commander in Chief, the immortal WASHINGTON, candidates for the offices of surgeon and mate were required to undergo an examination by a medical board, appointed for that purpose, at the commencement of the war in 1775. During the subsequent periods of that arduous struggle, the higher stations in the important department of medicine were occupied by men no less distinguished for public virtue and genuine patriotism, than for medical dignity and eminence.* Their united wisdom was happily directed to the melioration of the condition of our military medical establishments, and ultimately, to the promotion of professional knowledge and the faithful discharge of duty among the surgeons of the army. Since the termination of our glorious struggle in the cause of liberty, the dark clouds, which, in our infant state enveloped the science of medicine, have been gradually dissipated, our imprisoned mental powers and faculties liberated, and progressively improved, and our medical character, like our national independence, has been honourably and advantageously established.

It is ascertained by historical records, that the yellow fever made its appearance in the cities of Charleston and Philadelphia in 1699 and 1740, and that the same malady again visited Philadelphia, New-York, and some other parts of North America, in the years 1744, 1747, 1760, and 1762. At the last mentioned period it was attended with such symptoms of malignancy, as baffled the skill of the most experienced physicians. The medical characters of those times, as well as the public, generally considered the disease to be contagious, and imported from the West-Indies.

---

* The first Director General of the Hospitals was Dr. Benjamin Church, of Boston, but being, soon after his appointment, charged with a treasonable correspondence with the British, was superseded by Dr. John Morgan, of Philadelphia. After his retirement, Dr. William Shippen succeeded to the same office, and Dr. Benjamin Rush was appointed Physician General, which office he sustained only for a short period. The following gentlemen are personally recollected as holding the stations of Physician or Surgeon General, or Deputy Director of the different departments of the army, viz. Malachi Treat and John Cochran, of New-York, Jonathan Potts, of Pennsylvania, James Craig, of Virginia, and Isaac Foster, of Massachusetts. Andrew Craiggie, Esq. Apothecary General.

Those who served as hospital or regimental surgeons, belonging to Massachusetts during the war, were Isaac Foster, Samuel Adams, John Warren, William Eustis, David Townsend, John Hart, Joseph Fiske, Josiah Bartlett, John Thomas, Daniel Shute, and James Thacher.

The same fever was recognized in our hospitals and camps, during some seasons of the revolutionary war.

The dreadful visitation of the yellow fever in the city of Philadelphia in 1793, must be regarded as a memorable event in the history of the United States. Such was the magnitude of this awful calamity, as to excite in the breasts of all classes of people the keenest emotions of sympathy, and the most terrible sensations of consternation and dismay. No less than four thousand and forty-four persons fell victims to this destructive epidemic in that city, between the 1st August and 9th November. The same epidemical fever has, at several subsequent periods, been permitted to ravage that city, New-York, and almost all the sea-port towns in the United States. It first made its appearance, as an epidemic, in the town of Boston in 1798, where it exhibited every mark of great malignity. Although limited to a small section of the town, the deaths were about one hundred and forty-five. There were no evidences of its having been imported, nor any instance to justify the supposition of its being contagious. Boston was again visited by this fatal malady in 1802, with all the circumstances of its former malignant and destructive nature, and about fifty persons died.

The nature, causes, origin, and propagation of this formidable disease immediately became the topics of interesting inquiry and universal concern. The investigation was pursued by many of our most distinguished medical philosophers with the utmost zeal and perseverance; but from the conflict of opinions on this abstruse subject, a spirit of illiberality was, in too many instances, allowed to mingle with discussion, and to impede the progress and attainment of truth. Whether the yellow fever, as then prevalent, was of an inflammatory or typhoid character, was a question agitated with considerable warmth. The facts were also important to be decided, whether the disease was imported from a foreign country, and was of a contagious nature, or originated in some domestic and local cause, existing in our cities. The learned labourers in this ample field of controversy were designated by the names of contagionists and non-contagionists, or advocates for the importation, and such as favored the idea of the domestic origin of this awful source of mortality. Although the discordant opinions of the faculty were little calculated to satisfy and soothe the

distracted state of the public mind, they nevertheless effected a more rigid observance and assiduous application of the means of prevention than could have resulted, had either of those doctrines alone prevailed. A more complete system of quarantine laws were adopted, and more efficient regulations were introduced in the management of our police.

It should be noticed in this sketch, that, for more than half a century, it has been the practice of some physicians of eminence, particularly in New-England, to administer mercury as an efficacious remedy in febrile diseases of every description. It was employed, not so much for its evacuating power, as with the intention of introducing it gradually into the system as an alterative. The writer has a distinct recollection, that, when a medical student in 1774, his respected instructer* reposed the fullest confidence in a moderate course of mercury, in pleurisies and peripneumonies, esteeming it the most efficacious attenuant and expectorant, which the Materia Medica afforded. Several other physicians of the same standing in Massachusetts were in the habit of pursuing a similar mode of practice.† But it was reserved to a more recent period to call into requisition this Sampson of the Materia Medica to combat those formidable destroyers of mankind, which have, of late, spread such havoc and terror in our country, the contagious and epidemical diseases. Dr. Rush, after having experienced the palpable inefficiency of all the known curative remedies in the yellow fever of 1793, was induced to adopt the depleting plan, and boldly resorted to the lancet and to mercurial purges, as his last hope; and at subsequent periods of its prevalence, the lancet was more cautiously employed, and mercury used as the sovereign remedy. It was given with the view of evacuating the alimentary canal, or in such form as would speedily induce a moderate salivation, in which event it proved eminently efficacious.

Influenced probably by the opinion and example of Dr. Rush, most of the learned physicians of the United States have declared themselves advocates for the mercurial mode of treatment. Being thus sanctioned by the highest medical authority and by general assent, the mercurial practice is now received and adopted by most

* Dr. Abner Hersey, of Barnstable.

† See Dr. Holyoke's Letters. Med. Repos. Vol. I. p. 500. See also Dr. J. Warren's excellent Treatise on Mercurial Practice.

of our practitioners as the safest and most successful method of cure, not only in the yellow fever, but also in typhus and other forms of malignant febrile affections. This plan of treatment was found to be coincident with the opinions and practice of some respectable medical men of the most extensive experience in the yellow fever of the West-Indies. Dr. Chisholm, indeed, is reputed to have been one of the earliest of those who resorted to mercury as an agent in controlling the violence of that fatal disease, in that climate, in the years 1789 and 1790; and he is worthy of being styled the champion and father of the mercurial practice; having, in one instance, exhibited by the mouth, by inunction, and by clyster, no less than five thousand seven hundred and four grains of mercury in five days, and the result was the rapid recovery of his patient. It would seem scarcely credible, *a priori*, that the human constitution is capable of sustaining such an enormous quantity of this active metal, and it is to be presumed that the learned gentleman will long remain without a rival in this respect, in the United States.

Among the epidemics which have visited our country, the *Influenza*, or *Tussis Epidemica* of Sydenham, deserves to be noticed in this sketch.* It has prevailed in America at nine or ten different periods, since the year 1733; but in the autumns of 1789 and 1807 it was more universally extensive and severe in its effects than at any preceding period of its visitation. It first appeared in New-York and Philadelphia, from which it was, in a short time, diffused through every part of the continent. It was estimated, at the time, that three fourths of the inhabitants were, in a few days, affected with this singular epidemic, in a greater or less degree. The amazing rapidity with which it spread through the country, resembled more a storm agitating the atmosphere, than the natural progress of a disease, from any contagious source. Almost a whole city, town, or neighbourhood, became affected with its influence, in a few days, and as it did not incapacitate people, in general, from pursuing their ordinary occupations, it was common to observe in every street and place of resort, such coughing, hawking, and wheezing, as to interrupt conversation, and, in public assemblies, little else was to be heard or attended to. Although all classes of people experienced the oper-

* Termed by some writers *catarrhus epidemica*.

ation of the influenza, it is remarkable that a small proportion, comparatively speaking, were so ill as to require medical attendance, and instances of its fatal termination were of rare occurrence.

The very brilliant and important discovery of the vaccine disease by Dr. EDWARD JENNER, a celebrated English physician, and the fact, that it will render the human system unsusceptible of the small-pox, was announced in our news-papers, and in the Medical Repository of New-York in 1799. The first information relative to this novel and singular discovery, although from undoubted authority, did not receive universal credence. By some it was treated as chimerical, while others resolved to suspend their opinion for the issue of future experiments. It appears that Dr George Pearson, of St. George Hospital, London, first called Dr. Jenner's attention to the application to be made of the facts familiarly known for years before, that the dairy maids were proof against the small-pox. This learned and distinguished physician first suggested to Dr. Jenner the use that might be made of those facts. In order that the vaccine disease might be substituted for the small-pox, Dr. Pearson transmitted in a letter to Dr. Hosack of New York a thread impregnated with the matter of the vaccine virus: and in a letter to Dr. H. towards the close of 1798, and which accompanied a copy of his "*Inquiry concerning the history of the cow-pox principally with a view to supercede and extinguish the small-pox,*" published in London, Nov. 1797, he says; "I now send you my proof sheets of a new work on a subject which will much surprise you, and which promises to supersede that most loathsome disease the small-pox. I wish you to inquire whether such a disease as the cow-pox exists in America, and give me advice of it. I send you this early information that you may avail yourself of it." Dr. Benjamin Waterhouse, however, then Professor of Medicine in the University at Cambridge, did not hesitate to proclaim his full confidence in the statements and facts, which he had received directly from England. In July, 1800, he procured matter from thence, by which he was enabled to test the experiment in the person of his own son, who thus became the first subject of vaccination in the United States. From this source, matter was furnished for the inoculation of several others, some of whom were tested by variolous infection, with the desired success, which afforded additional evidence of the prophylactic efficacy of the vaccine dis-

ease. In the year 1800, and at subsequent periods, Dr. Waterhouse presented to the public, historical and practical treatises on the cow-pox, and communicated, through the medium of newspapers, useful and discriminating directions and precautions relative to the genuine disease. He was, for a season, exclusively in possession of vaccine matter, which he occasionally distributed to practitioners for the extension of its benefits to different sections of our country. In the following September, Dr. James Jackson, of Boston, returned from London, and having acquired experimental knowledge, by attending the practice of vaccination with Dr. Woodville, generously contributed to its propagation in Boston and the vicinity. In the same year Dr. Miller, of New-York, received matter from Dr. Pearson, of London, which failed, however, to produce the genuine disease, nor was another supply, sent on from Boston, attended with better success. In fact, spurious matter, in some instances, and want of skill and experience in the operator, in others, occasioned numerous failures, during the first attempts, which had the effect of damping public confidence, and restricting the exertions of the friends of vaccination.

The Massachusetts Medical Society, early in 1801, addressed an application to the vaccine institution in England, requesting a supply of matter. Publications on this new subject were now continually multiplying, and the most gratifying evidences in favour of vaccination issued from various quarters. In the year 1802, the Boston Board of Health, actuated by the most laudable views, directed nineteen persons to be vaccinated under their inspection, all of whom were afterwards tested by the small-pox infection in the most satisfactory manner and with the happiest result.

In the following year, the junior physicians of Boston formed an association for the express purpose of bestowing gratuitously the benefits of vaccination upon the indigent, and of disseminating the matter among medical practitioners.

The kine pock institution was established in New York in Jan. 1802, for the purpose of substituting the cow pock inoculation in the place of the small-pox ; more particularly among the poor, and for preserving a constant supply of genuine matter. The first physician appointed to vaccinate for the Dispensary was Dr. Valentine Seaman. According to the annual report, dated Jan. 1806, no less than 1,223 patients enjoyed the advantage of the City Dispensary, beside those who had received vaccine inoculation gratis.

In the year 1808, the number of patients who enjoyed the advantage of the Dispensary was 1,340: in 1811 the number was 1,446: the trustees also stated that in addition to these patients 1016 had been vaccinated at their office since the first of Jan. 1811, gratis, and that in every instance the kine pock has proved a perfect security against the small-pox.—*Med. and Phi. Register, Vol. 4th.*

In 1808, a committee was appointed by the counsellors of the Massachusetts Medical Society, for the purpose of collecting all the evidence which had transpired respecting the efficacy of the cow-pox, as preventive of small-pox, and to report the most eligible method of conducting the practice. A copious and interesting report was made and published in the communications of the society, accompanied with evidence sufficiently strong to remove every vestige of prejudice and uncertainty relative to the prophylactic powers of vaccination. The fellows of the society, being also enjoined to inquire whether the native cow-pox had been discovered among the cows in this country, the result was a confirmation of the fact in several instances.

The town of Milton, having in 1809 made arrangements to extend the benefits of vaccination to its inhabitants, Dr. Amos Holbrook inoculated three hundred and thirty-seven persons, being more than a fourth part of their population; twelve of whom were afterwards tested with small-pox, without receiving it. In imitation of this laudable example, the town of New-Bedford in the same year adopted a similar plan, and about fifteen hundred of its inhabitants were inoculated. The next attempt to disseminate the advantages of vaccination will be found in the transactions of the legislature of Massachusetts, who, in 1810, authorized the several towns to appoint committees, and raise monies annually for this important purpose.

The glorious triumph of vaccination over that most dreaded scourge of the human race, the small-pox, is now established by incontestible proofs, and has received the sanction and applause of the community, and of the wise and learned in the remotest regions of the earth. We can now congratulate the citizens of the United States, who, in common with the whole civilized world, are in possession of this heavenly blessing, a blessing which eradicates from the catalogue of human miseries the most odious and fatal disease, and which happily closes one of the most crowded avenues to the tomb.

The horrors occasioned by the ravages of the yellow fever in our cities had not ceased, when another epidemic equally formidable and malignant in its nature, and fatal in its consequences, commenced its distressing career, and spread terror and desolation through the interior of the country. This malady, which has obtained the name of *spotted* or *petechial* fever, first appeared in the town of Medfield, in Massachusetts, in 1806. Its ravages were afterwards experienced in Connecticut, and in 1810 it prevailed in the county of Worcester, with unexampled mortality, baffling the powers of medicine, and setting at defiance the best skill of physicians. On this alarming occasion, the counsellors of the Massachusetts Medical Society appointed a committee with instructions to make all possible inquiry and investigation relative to the disease in question. Their report, as to its causes, history and mode of treatment, was elaborate, honourable to themselves, and reputable to the individuals who furnished its materials. This valuable document occupies a place in the Society's communications, lately published. The fact is well ascertained that the disease is not contagious, as was by some, at first apprehended.

It is remarkable of this epidemic, that it is most rife in the cold seasons of winter and spring, and that it is more prevalent and genuine, in its character, in the interior, than in the vicinity of the sea board. But, wherever it waves its standard, the arrows of death cross its paths, and all classes and sexes become its indiscriminate victims.

In some situations and seasons, the proportion of deaths, in severe cases, is supposed to be greater than one half of the number seized. One instance occurred, at a considerable distance from the place where the disease was known to exist, of the death of seven adult persons out of eight, belonging to four or five contiguous families, before the fifth day, and the eighth survived but a few days longer. In other more favourable instances, and under a more improved and judicious mode of treatment, the number of deaths, it is said, has not exceeded one in sixty or eighty.

In the autumn of 1812, a formidable epidemic made its appearance among the soldiers of the United States' armyat Greenbush, and other military stations, where its desolating effects were marked with great severity. During the winter and spring of 1813, it was prevalent and extremely fatal among the inhabitants of Vermont, in the upper parts of the State of New-York, in several

towns in the interior of Massachusetts and the district of Maine, assuming a multitude of treacherous shapes, and triumphing over its victims with inexorable sway. The town of Boston and its vicinity were not altogether exempted from its attack, though its subjects were principally the newly enlisted soldiers quartered in that metropolis.

According to its various symptoms and forms, this pestilence has been termed *Bilious Peripneumonia*, or *Typhoid Peripneumonia*. In some of its appearances and forms it may be identified with the petechial fever above mentioned, but if it be a distinct disease, there is an obvious and close analogy in their nature and character. It has been remarked, that the petechial fever produces a peculiar derangement of the functions of the brain, while the last epidemic directs its morbid powers to the pleura, lungs, heart and its membranes. The reader may consult Dr. N. Strong's Inaug. Diss., Dr. E. North, on spotted fever, Communic. Mass. Med. Soc. Vol. II., New-Eng. Med. Jour., Amer. Med. and Phil. Register, and Med. Repos. of New-York. To which may be added, Gallup on Epidemics, Med. Sketches by James Mann, M. D., and Treatise on Typhus Syncopalis, by Thomas Miner, M. D.

PROGRESS OF MEDICINE IN AMERICA.

MEDICAL INSTITUTION OF PENNSYLVANIA.

It will doubtless be deemed an extraordinary circumstance that on a retrospect of the early history of our country, it appears that more than a century and a half elapsed after its first settlement, before a single effort was made, either by public authority or by individuals, for the establishment of institutions for the education of physicians or the regulation of the practice of medicine. But the science of medicine, even in Europe, had long continued at a low ebb, until the era of its revival commenced in 1719, when, by the splendid talents and enterprise of Dr. Monro, sen., the establishment of the celebrated medical school of Edinburgh was accomplished. This honorable achievement was succeeded by similar institutions in various parts of Europe. The genius and industry of William and John Hunter, in London, of the great Boerhaave, in the University at Leyden, and some kindred spirits in the medical schools in France, seemed to combine their efforts to elevate medical sci-

ence to a desirable state of improvement. In America the cultivation of scientific knowledge had not been commensurate with our national progress in wealth and population, but it was reserved for some brilliant and philanthropic characters to follow in the laudable pursuit for the benefit of their native country. These were Dr. William Shippen, and Dr. John Morgan, both natives of Philadelphia. Having completed their preparatory education, and graduated, Dr. Morgan at the College of Philadelphia, and Dr. Shippen at the College of New-Jersey, they both commenced the study of medicine in their native city; the former with the justly celebrated Dr. Redman, and the latter with his father, then a respectable physician of Philadelphia. After the usual course with their private instructers, they repaired to Europe to complete their medical studies in the public schools. Shippen first visited London, where he enjoyed the friendship of that eminent teacher, John Hunter, and also of Mr. Hewson, Sir John Pringle, and Dr. Fothergill; the latter of whom took a deep interest in the improvement of medical science in America, and lent him considerable assistance in founding the institution at Philadelphia. Shippen, after finishing his studies in London, repaired to Edinburgh, where he studied and graduated. He afterwards visited France, and returned to his native country in 1762, with the full determination of opening a school of anatomy. Morgan visited Europe, and attended the lectures of William Hunter, spent two years in Edinburgh, and graduated at that university, and afterwards attended medical lectures at Paris. While Drs. Shippen and Morgan were in Europe, they concerted the plan of establishing a medical school in their native city. Accordingly, in 1762, Dr. Shippen commenced a course of lectures on anatomy and midwifery, accompanied by dissections, to a class of ten students, and this was the first public course of lectures upon anatomy ever delivered in America, if we except those delivered at Newport, in 1756, by a Dr. William Hunter. In 1765, Dr. Morgan returned from Europe, and was appointed professor of the institutes of medicine, and Shippen the professor of anatomy, and they were the only professors of this new institution until 1768, when Dr. Kuhn, who had studied under the celebrated Linnæus, was appointed professor of botany and materia medica, and in the following year, Dr. B. Rush, who had just completed his studies and obtained medical honours in Europe, was chosen professor of chemistry. These learned charac-

ters, assisted by the venerable Dr. Thomas Bond, as lecturer on clinical medicine, zealously devoted their talents to the duties of the several departments of medical instruction; thus laying the foundation for the first medical institution in the American colonies. This was soon after confirmed and established by the authority of the trustees of the college of Philadelphia, while the venerable Dr. Franklin officiated as their president.

The science of medicine was unfortunately deprived of the benefits and improvements expected from this very honourable association, by various circumstances connected with the American revolutionary war. Since its close, however, the medical school of Philadelphia has been revived and re-organized under circumstances propitious to medical improvement. An unfortunate competition and discord between the Medical College and an Opposition school for a time marred their prospects, and impeded that progress which the friends of the institution and the public had confidently expected. But in 1791 some important changes took place, an harmonious union of the contending parties was effected, and Dr. Rush was appointed Professor of the Institutes and Practice of Physic and of Clinical Medicine. From this period, the progress and improvement of the school has been honourable to the venerable founders, and beneficial to the community. The commanding talents and profound erudition of Professors Rush, Physick, Barton, Wistar, Chapman, and others, have given to the medical school of Philadelphia, a celebrity which will probably long remain unrivalled in the United States, and will enable it to vie with the most improved seminaries of the European world. It has become the resort of students from every section of the Union. More than four hundred in one season attended the various courses of lectures, and the inaugural dissertations of those who from time to time have received its honours, have extended the fame of the school from which they emanated. At the commencement in June, 1771, the degree of A. B. was conferred on seven, and the degree of M. D. on four students; the latter were the first who received the degree of Doctor of Medicine in America.

MEDICAL PROFESSORS OF THE UNIVERSITY OF PENNSYLVANIA FOR THE YEAR 1825.

PHILLIP SING PHYSICK, M. D. *Professor of Anatomy.*

JOHN REDMAN COXE, M. D. *Professor of Materia Medica and Pharmacy.*

NATHANIEL CHAPMAN, M. D. *Professor of the Theory and Practice of Medicine, and Clinical Practice.*

THOMAS C. JAMES, M. D. *Professor of Midwifery.*

ROBERT HARE, M. D. *Professor of Chemistry.*

WILLIAM GIBSON, M. D. *Professor of Surgery.*

WILLIAM E. HORNER, M. D. *Adjunct Professor of Anatomy.*

The public lectures commence the first Monday in November, and continue four months, and the commencement is about the first of April.

To obtain a degree of Doctor of Medicine, the candidate must have attained the age of twenty-one years, and must have applied himself to the study of medicine three years, two of which, shall have been in this University; and have attended the Pennsylvania hospital during one session, and have been the private pupil of some respectable practitioner. He shall have attended two complete courses of lectures, delivered in this University, on Anatomy, Institutes and Practic of Physic, and Clinical Medicine, Materia Medica, Chemistry, Surgery, and Midwifery. Excepting only such gentlemen, as have attended two courses of lectures on the same subjects, in some other respectable University, or school, and for such it shall be only necessary to attend one entire course in this University.

The student must take a ticket on or before the third Monday of the session. Each candidate shall write a thesis, and undergo an examination upon it in presence of the faculty. The candidate shall be placed behind a screen, and the examination shall be so

---

* The following are the names of those who have filled the respective chairs of the Philadelphia School and University, who are deceased :—

	Died		Died
Morgan,	1789	Woodhouse,	1809
Hutchinson,	1793	Rush,	1813
Carsin,	1793	Barton,	1815
Griffiths,	——	Wistar,	1818
Shippen,	1808	Dorsey,	1818

conducted, that no Professor, except the Dean of the faculty, shall know the candidate. The voting on this subject, shall be by private ballot. Two negative votes shall reject the candidate.

The fees of graduation shall be paid to the Dean of the faculty, at the time of his examination. Each professor receives $20 for a course of lectures, but after two courses, admission is gratuitous. Each Professor, also, receives $5 for signing a diploma. The Pennsylvania Hospital, founded in 1752, and the Philadelphia almshouse, are connected with the school, to which the students are admitted for clinical instruction. The number of medical students attending the course of lectures at the university in 1825, was 480. Such has been the prosperity of this first medical school founded in America. From the most accurate calculation that can be made, it is computed that not less than 7000 young men have received instruction within the walls of this school since its first establishment.

MEDICAL INSTITUTIONS OF NEW-YORK.

The first human dissection in America, of which we have any record, was the body of Hermanus Carroll, who was executed for murder in the city of New-York in 1750. This dissection was conducted by two eminent physicians of that city, Drs. John Bard and Peter Middleton, by whom some arrangements were made about that time for the purpose of imparting medical knowledge to students. These attempts were, at length, followed by an establishment for medical education, in 1768, in which were united the learning and abilities of Drs. Clossey, Jones, Middleton, Smith, Tennant and Bard, by whom lectures on the several branches were delivered. The medical doctorate was conferred on Samuel Kissam, by King's College, as early as 1771.* The events of the revolutionary war deranged, and wholly frustrated in its infancy the immediate design of this establishment. After the peace of 1783, some exertions were made for the renovation of the medical school, and professorships erected for that purpose; but for the want of cordiality and agreement among the professors and others, the plan was soon abandoned. Attempts were more successful in 1792, when the board of trustees formed a new medical establishment in

* Inaugural dissertation on the anthelmintic qualities of Cow-itch, by Samuel Kissam, was published in May 1771. *Hosack's Sketch.*

connection with Columbia College, formerly called King's College, and professors of distinguished talents and professional merit, were appointed to deliver lectures on the different branches of medicine, and the science was essentially promoted by their assiduous labours ; though, from various causes, the benefits arising from it were very limited,—only thirty-four students since its creation to the year 1811, had completed their courses of study and received the medical honours of the institution. "Considerations of expediency, however, affecting the interest of science, as well as other interests, arising from causes not implicating the distinguished gentlemen filling the different professorships in this medical school, determined the regents, on the 12th of March, 1807, to grant a charter, establishing the present college of physicians and surgeons of the city of New-York. The incorporation of this institution, under the patronage of the Regents, and its sanction by the legislature, gave very general satisfaction, and the benefits which have resulted from it, during the period of its existence, are to be seen in the annual reports to the Regents of the University. Its successful progress was, however, for a short time, retarded by the feuds and discontent among the professional members of the institution and others, arising principally from competition and rivalry between medical schools in the same city, whose objects were the same. It was, therefore, deemed advisable by the Regents, to whom representations of these disorders had been made, to remodel the college of physicians, and this was accordingly done on the first of April, 1811, ingrafting alterations upon their charter, principally with a view to their union with the medical faculty of Columbia College. This union was finally and happily effected at the last session of the Regents, in 1814, and to the satisfaction of all concerned ; and the united school now combines the most eminent medical talents in the state in one splendid seminary, under the general superintendence of the honourable the Regents, aided by the patronage and liberal endowments of the legislature."* In April 1816 the Regent made the following report to the legislature.

"The college of physicians and surgeons, in the city of New-York, is advancing to that celebrity, which must soon place it at

* The honourable legislature in 1808 made the liberal grant of 20,000 dollars, for the benefit of the college.

the head of similiar institutions in the United States. Perhaps no place can afford greater opportunities for giving medical instruction to the best advantage, on all the variety of cases in which the human frame is liable to disease, and where more opportunities are daily offered to exhibit them to the inspection, and for the instruction of students. It is, therefore, the decided opinion of the Regents, that this institution should receive the undivided support of the state: and that no other should be countenanced, which, by a spirit of rivalship or hostility, might, in any degree, succeed in repressing its justly deserved and increasing reputation as a medical school."

The most sanguine expectations were entertained respecting the utility of the institution thus re-organized, and the result of a few years experience clearly evinced that the learned professors filled the important stations assigned them, with ability and success. The inaugural dissertations of the graduates, are indicative of great industry, and of acquirements which reflect honour on their authors, and which proclaim the medical advantages they have enjoyed at the institution. In 1811, medical degrees were conferred by the college of physicians and surgeons on eight persons; and in 1812, the number was increased to twenty. In 1813, the number was reduced to five; and in 1814, there were eleven graduates. The number of medical pupils in 1815, was one hundred and seventy-one, and the number of graduates was twenty-seven, greatly exceeding the number attending at any prior session. The author of an historical sketch of the present institution, concludes his observations in the following words. "When the advantages which New-York possesses for a great medical establishment are considered, advantages arising from its natural situation, its extensive population, now nearly equal to most of the capitals of Europe, its large and well endowed hospital, and other public charities, its botanical garden, its well organized medical college, and the extensive system of education which it embraces; and when it is further considered, that these advantages are increased by the munificent patronage of the state, it is not too much to say, that, in the means of instruction, the college of physicians and surgeons is second to no similar institution in the United States."

The college opens annually, on the first Monday in November, and the several courses begin, successively, that week, after the in-

troductory lecture of the respective professors. The session closes the last day of February. Professors for 1825 :

Wright Post, M. D. *Professor of Anatomy.*

David Hosack, M. D. F. R. S. *Professor of the Theory and Practice of Physic, and Clinical Medicine.*

William J. M'Nevin, M. D. *Professor of Chemistry.*

Samuel L. Mitchell, M. D. F. R. S. *Ed. Professor of Botany and Materia Medica.*

Valentine Mott, M. D. *Professor of Surgery.*

John W. Francis, M. D. *Professor of Obstetrics, and the Diseases of Women and Children.*

Frederic G. King, M. D. *Demonstrator of Anatomy.*

David L. Rogers, M. D. *Demonstrator of Surgery.*

Number of Students attending the lectures for 1825, was 196.

EXPENSES.

Students are required to matriculate every session, and pay each time a matriculation fee of five dollars. There is to be paid to each professor a sum, not exceeding fifteen dollars, for each course of lectures. The expense of Graduation is twenty five dollars. No person shall be admitted as a candidate for the degree of Doctor of Medicine, unless he shall have regularly studied medicine for three years, with some respectable practitioner, shall have matriculated in this college, and shall have attended one complete course of the lectures delivered under the authority of the same, at not less than two winter sessions thereof; or unless he shall have previously attended an entire course of lectures at some other respectable medical college or university, as well as a complete course of lectures delivered as aforesaid, in the said college of Physicians and Surgeons, at one winter session thereof.

GRADUATION.

It is expected that a candidate for Graduation shall have attained the age of twenty-one years, and have attended the lectures of several Professors of the College, and the practice of the New-York Hospital, during one session at least.

On or before the first of February, the candidate shall make known his name and intention to one of the Professors, by whom he will be informed of the time and place of examination. This

first examination is by the board of Professors only: it is private and confidential.

A second examination is held before the board of Trustees, to whom, on this occasion, an appeal lies, and before whom there is offered an opportunity of redress, if a candidate think himself in any wise aggrieved.

The names of those who have been approved by the Trustees are forwarded to the Regents of the University, who return an equal number of Diplomas, under the signature of the Chancellor. They are afterwards signed by the Professors.

By the 20th of April, the candidate shall deliver to one of the Professors a dissertation on some medical subject. He is publicly examined on the same, in the College Hall, on the first Monday in May, and may publish or not, at his discretion. The Degrees are conferred the next day at a public Commencement.

Good board, and comfortable accommodation, may be had for Students, at from four to five dollars per week.

N. B. The Student of Medicine has abundant opportunities of prosecuting private dissections, under the immediate direction of the Professors of Anatomy and Surgery, as the College enjoys the peculiar advantage of being able to procure subjects from the State Prison, under the sanction of an act of the Legislature.

The New-York Hospital was founded in that city, in 1771. The Medical Society of the county of New-York was incorporated by the Legislature in 1806, and by another act in 1813. The objects of this society are, to regulate and to improve the practice of physic and surgery. Of this respectable Society David Hosack, M. D. is the President, and his inaugural address was delivered July, 1824.

There existed in the city of New-York, prior to, and for several years cotemporary with, the college of physicians and surgeons, a faculty of physic connected with Columbia College; where lectures on the different branches of medicine have been annually delivered, and medical degrees conferred; but, in order to annihilate a source of mutual jealousy, personal animosity, and perpetual collision and dissension, this, as already mentioned, has been

amalgamated with the college of physicians, the officers of which are selected from both institutions. We find also a third respectable medical institution in that populous city, but not recognized or sanctioned by authority. Being viewed as arranging themselves in opposition to the established institution, and aware of the evil consequences arising from competition and rivalship, the honourable legislature rejected their memorial and petition for an act of incorporation and pecuniary assistance. Students of this institution who are found duly qualified, are invested with academic honours under the authority of the president and trustees of Queen's College, in the state of New-Jersey.

MEDICAL INSTITUTIONS OF MASSACHUSETTS.

The University at Cambridge, Mass. has also contributed to the interest and advancement of medical science, by an institution founded on the generous benefactions of several enlightened and liberal individuals. Dr. Ezekiel Hersey, of Hingham, who died in 1770, bequeathed one thousand pounds, and his widow, at her decease, a like sum, to be applied to the support of a Professor of Anatomy and Surgery. His brother, Dr. Abner Hersey, of Barnstable, who died in 1786, and Dr. John Cummings, of Concord, were also donors to the amount of five hundred pounds each, for the same purpose, and William Erving, Esq. of Boston, left one thousand pounds towards the support of an additional professor.

In conformity with the views of the patrons and donors, professors of talents and character were, in 1782, appointed, by whom lectures on the several branches have been regularly delivered, and students have received the honours of the institution.

Previous to the American revolutionary war, the means of medical education in New-England were extremely limited and deficient; no medical school, public lectures, or public library for the resort of students; and unless educated in Europe, young physicians must commence their professional duties destitute of those scientific attainments which in later times have been deemed indispensable. But when the alarm of war pervaded our country, and an army was formed, a new and vigorous impulse was given to the investigation of subjects pertaining to medicine and surgery. Military hospitals were established under the auspices of the most

eminent professional characters, affording a fund of practical knowledge, and no circumstance in our history could have been more efficient in accelerating improvements in the most important of all the sciences. It was not, however, till since the close of the war for Independence, that any thing more than a tardy and silent progress could have been expected, as our present embarrassments and necessities required all our efforts. In 1780, Dr. John Warren, while surgeon of a military hospital in Boston, commenced a course of anatomical lectures, and in the following year they were attended by the students of the University. This gentleman, at the instance of the late President Willard, who was well apprized of his superior qualifications, furnished a plan for a medical school, which was adopted by the Corporation, and Dr. W. was appointed the first Professor of Anatomy and Surgery, Dr. Benjamin Waterhouse, Professor of the Theory and Practice of Physic, and Dr. Aaron Dexter, Professor of Chemistry and Materia Medica.

This first medical school in New-England was thus organized, and its important objects have since been faithfully and ably prosecuted. In consequence, however, of many inconveniences, both to professors and students, in the town of Cambridge, and of the superior advantages which might result from lectures delivered in a more populous situation, the Corporation and board of Overseers of Harvard College deemed it expedient to establish a medical school in the town of Boston. The several courses of lectures were accordingly transferred, and commenced in that metropolis in December, 1810.

That the high expectations entertained of the superior advantages, which would be realized by the removal from Cambridge, were not imaginary, the immediate accession to the number of students, presents the most abundant and conclusive evidence. The number who attended the lectures while confined to Cambridge, rarely exceeded twenty, besides those of the first class of the University. The number of medical students who resorted to the Boston school in 1813, was nearly fifty, and the number of medical graduates, twelve. At the Commencement in August, 1814, professional degrees were conferred on nine, and more than sixty medical students attended the lectures in Boston in December of the same year. This flattering impulse towards the improvement of the Boston school, and the honourable attestations

that their indefatigable services are justly appreciated, must afford the learned teachers the highest gratification.

The Legislature of Massachusetts have granted the sum of $20,000 to Harvard University, for the liberal purpose of improvement in the medical department.

When the medical abilities and zealous efforts of the professors are considered, in connection with the numerous privileges annexed to this institution, it will be conceded, that the means and opportunities of acquiring medical knowledge, in our metropolis, are such as to justify the respect and full confidence of the community.

The professors are in possession of a very valuable collection of anatomical preparations, presented by John Nichols, Esq., a counsellor at law, in England, with a number of natural preparations, by his father. The University is also indebted to the liberality of Elias H. Derby, Esq. of Salem, for several valuable and curious imitations, in wax, of various parts of the human frame, from a nunnery in Italy. They are also furnished with an extensive chemical apparatus, which, by recent improvements and additions, is supposed to be the most complete of any to be found in the United States.

In addition to the foregoing advantages, a very important one has been conferred by Ward Nicholas Boylston, Esq., a distinguished and liberal citizen of this commonwealth. In 1800, he presented to Harvard University a valuable collection of more than 400 volumes of medical and anatomical works and engravings, with permanent arrangements for future additions. The use of this collection is extended to the fellows of the medical society, residing within ten miles of Cambridge. In the year 1803, "with the beneficent and laudable view of improving the art of medicine, and to excite practitioners to bring those talents to light, which might otherwise be lost to the community," the same gentleman provided a fund, the proceeds of which are to be annually appropriated to the purpose of a complimentary premium to the authors of the best performances on such medical, anatomical, physiological or chemical subjects, as are proposed by a committee of the medical faculty, appointed by the corporation of Harvard University. Premiums have been annually adjudged, agreeably to the design of the founder, for ingenious and approved dissertations, which sufficiently evince that this

generous establishment is well calculated to inspire the desired laudable emulation among professional men of the rising generation, and to promote the interest of medical science in general.*

Candidates for the degree of Doctor in medicine must attend two courses of the lectures of each of the medical professors in this University, and also their clinical practice in medicine and surgery, during the lectures. They must study two years under the direction of a regular practitioner of medicine, and allow a third to elapse before they can be examined. Provided, however, that, in extraordinary cases, the medical professors, with the consent of the president, may dispense with one course of lectures on such conditions as may be thought reasonable. Those who have not received a University education, shall satisfy the president and medical professors, of their knowledge in the Latin language, and in experimental philosophy.

The examination of candidates will commence on the second Wednesday after the termination of the winter course of lectures, and the subjects of their examination will be Anatomy, Surgery, and Midwifery, the Theory and Practice of Medicine, Chemistry, Materia Medica and Clinical Medicine. Each of the candidates approved shall prepare an inaugural dissertation on some medical subject, which dissertation, having been submitted to the faculty of medicine, at least fourteen days before, shall be read and defended at a public examination, in the Philosophy chamber, at Cambridge, on the Friday preceding the last Wednesday in August, in presence of the Governors and Instructors of the University, and such members of the Massachusetts Medical Society, and other individuals as may choose to attend. Each successful candidate will be admitted to receive the degree of Doctor in medicine, at the ensuing Commencement. All those who have heretofore obtained the degree of Bachelor in medicine at this University, will receive the degree of Doctor in medicine.

In the year 1809, John C. Warren, M. D. was associated with his father as adjunct Professor of Anatomy and Surgery, and John

* The annual income of the Boylston fund amounts to one hundred dollars, which is divided into two premiums to be awarded as above mentioned. We rejoice that the valuable life of that distinguished philanthropist has been protracted to witness the great utility of his munificent donation; and it should be gratefully acknowledged, that he has devoted his wealth and influence to the promotion of medical science, to a greater extent than any other individual in America.

Gorham, M. D. adjunct Professor of Chemistry; and in 1812, James Jackson, M. D. superseded Dr. B. Waterhouse, as Professor of the Theory and Practice of Physic.

November 1st, 1815, John C. Warren, M. D. was inaugurated at the University Hall, Professor of Anatomy and Surgery in Harvard College, as successor to the late lamented Professor Warren, who held that station for many years, with great honor to himself, and advantage to the institution, and who was no less distinguished for his talents and virtues, than zeal and success in performing the arduous duties of his profession. On the same occasion was announced the appointment of Jacob Bigelow, M. D. as lecturer in Materia Medica, and Walter Channing, M. D. as lecturer in the Theory and Practice of Midwifery in the University.

The legislature of Massachusetts, by a recent grant, have endowed the University with funds for the erection of a *College* of *Medicine* in Boston.* This large and handsome building is now completed, and the medical lectures of Harvard University begin in the lecture room annually, on the third Wednesday in November, and continue three months.

	Fees.
Anatomy and Surgery, by JOHN C. WARREN, M. D.	$20
Chemistry, by JOHN GORHAM, M. D.	15

* The *Massachusetts Medical College* is situated in Mason-street, near the Boston Common and Mall. The building is of brick, 88 feet in length, and 43 in its greatest breadth. Its figure is oblong, with a pediment in front, and an octagonal centre rising above the roof, and also forming a three-sided projection in the rear of the building. This is surmounted by a dome, with a skylight and balustrade, giving an appearance of elegance to the neatness and fit proportions of the building.

The apartments on the first floor are a spacious Medical Lecture room, of a square form, with ascending semi-circular seats; a large Chemical Lecture room in the centre, of an octagonal form, with ascending seats; a Chemical Laboratory, fitted up with furnaces and accommodations for the costly apparatus used in the lectures; and a room to be occupied by the Massachusetts Medical Society, which is filled by a Medical Library, already consisting of 3 or 4000 volumes. In the second story is the anatomical theatre, the most extensive room, occupying the whole central part of the building, covered with the dome and skylight; with semicircular seats which are entered from above, and descend regularly toward the centre. In this theatre are placed a beautiful statue of the Venus of Medici, and a noble cast of the Apollo of Belvidera, designed to illustrate the external forms of the human body. A large and a small room for practical anatomy, together with another for the museum, occupy the extremities of the same story.

	Fees.
Midwifery and Medical Jurisprudence, by WALTER CHANNING, M. D.	10
Materia Medica, by JACOB BIGELOW, M. D.	10
Theory and Practice of Physic, by JAMES JACKSON, M. D.	15
For the degree of Doctor in medicine,	20

During the lectures, the students are supplied gratuitously with sets of osteological specimens for study, and can have the use of the dissecting room, on defraying the attendant expenses. They are admitted *without any expense* to the surgical operations and clinical practice of the Hospital. Medical students present, 1825, 130. Board in the city is obtained by a large portion of the class at $3 per week.

The faculty of medicine in Harvard University have founded, by their private donations, a library for the use of the students in medicine. The Boston medical library, consisting of nearly 2000 volumes, is now united with it, and deposited in the Medical College. The students of the Medical class will be admitted to both of these, as well as the valuable medical library presented by Ward N. Boylston, Esq. These highly valuable collections of medical books, will afford a supply amply sufficient for all the purposes of students in each of the principal departments of medical science. A hall in the new building is appropriated and furnished with every necessary aid and convenience for the study of anatomy. Students will have the aid of private demonstrations on any part they may prepare for the purpose, and every convenience will be furnished to assist them in making preparations for their own use. The number of subjects for demonstration is as great as could be wished. In future, the surgical lectures will be made to occupy nearly a third part of the course. Students will occasionally have access to the valuable and expensive collection of wax preparations lately purchased by the University, and when proper opportunities occur, they will be invited to attend surgical operations by the professor.

The Massachusetts General Hospital, one of the most active and flourishing insitutions in the United States, has received, within a few years, more than $300,000 in private donations, in addition to its previous very liberal endowment from the State Legislature. Some of the most splendid instances of public generosity

which the present age has witnessed, are to be found among the benefactions of the Massachusetts General Hospital. While this institution gives accommodation to the full extent of its means to the sick poor, it gives also admission, which was at first conditional, but is now free, to the students of the medical class attending the lectures of the physician and surgeon. Regular clinical lectures are now given, during the winter, by the professors of the theory and practice of physic, and students are admitted to the patients, to enable them to become practically conversant with the symptoms of diseases and the operation and influence of medicinal agents. It is obvious that the privilege of gratuitous admission to so extensive a course of medical and surgical practice, is an advantage not usually attainable in medical schools, and one of the highest importance which can be offered during the period of preparation for the medical profession. The number of beds provided for patients is at present one hundred, and the number of surgical operations of magnitude performed in this hospital within the last two years and nine months, amounts to one hundred and twenty. The cleanliness, punctuality, and order observed at the Hospital, the regular and daily attendance of the physician and surgeon, the care and attention in selecting suitable persons to serve as nurses and attendants on the sick, all combine to render this a most eligible and convenient asylum for those who may labor under chronic diseases requiring the assistance of the most skilful physician and surgeon.

The practice of the obstetric art was confined almost exclusively to females, till within the last sixty years. The late Dr. James Lloyd, who finished his education in London, in the year 1753, was for many years an eminent physician in Boston, and he is said to have been the earliest systematic practitioner in midwifery in New-England. That branch is now taught in all our Universities, and the practice has, in general, devolved on physicians.

The establishment of a botanical garden at Cambridge, will doubtless prove, at a future period, an excellent auxiliary to the study of botany and pharmacy, and facilitate a knowledge of the indigenous plants of the country, and their introduction into the Materia Medica. Two townships of eastern land have been granted by our legislature, and a subscription of $30,000 has been obtained, for the purchase of land, and other expenses of this

valuable establishment. It is under the inspection of William D. Peck,* as professor of natural history, and a board of trustees, of which the president of the Medical Society is *ex officio* a member.

The Massachusetts Medical Society was incorporated by an act of the legislature, in 1781, and in the following June was organized, and Edward A. Holyoke, M. D. appointed the first president. By several subsequent acts the constitution and by-laws have been so altered and reformed, as more effectually to promote the views and designs of the founders of this excellent institution. The number of fellows, originally limited to seventy, may now embrace all the respectable practitioners of physic and surgery in the state, who, in the election of counsellors, may vote by proxy.

In the act of incorporation, the honourable legislature have disclosed their views of the high importance of medical regulations and establishments, formed on liberal principles, and fostered by the patronage of the government. They premise, that "it is clearly of importance that a just discrimination should be made between such as are duly educated and properly qualified for the duties of their profession, and those who may ignorantly and wickedly administer medicine, whereby the health and lives of many valuable individuals may be endangered, or perhaps lost to the community." The society is therefore "authorized and required to appoint censors or examiners of candidates, and license such as may be found qualified for practice; to devise and direct such systematic mode of medical instruction as might be deemed requisite for candidates previous to examination, and to increase and diffuse medical knowledge."

In order to subserve the views of the legislature, and to render the society extensively beneficial, it was desirable to unite and associate, as far as practicable, into one harmonious body of brothers, all the meritorious part of the medical practitioners in the commonwealth. For this purpose, great exertions have been made by the counsellors and fellows, since their organization, to select those gentlemen whose education and respectability as physicians or surgeons justly entitle them to the honours and privileges of the society. It is conceived that the object in view is in a great

* Since the decease of Professor Peck, the botanic garden has been committed to the direction of Mr. Nuttall.

degree accomplished, but if there remain some exceptions, the door is still open to persons of the proper description, and they will, when known, meet with a cordial reception. The society now consists of more than two hundred and sixty fellows, exclusive of honorary members. Their stated meeting is on the first Wednesday of June, annually, when a discourse on a subject connected with medical science is delivered by one of the fellows. Among other transactions at the annual meeting, a proper number of the fellows in the several counties of the state are elected by ballot to officiate as counsellors. This branch is authorized to elect fellows and honorary members, to appoint the officers of the corporation, to establish district societies, and, in general, to watch over and promote the interests of the institution. The stated meetings of the council are on the day following the annual meeting of the society, and the first Wednesdays in October and February. The censors meet for the examination of candidates for practice, on the Thursday next preceding the annual meeting of the society, on the days following the meetings of the council in October and February, and on special occasions, when the president by his written order may direct.

The modes provided for the purpose of admission into this society, afford a facility which cannot fail of being satisfactory. Licentiates of the society and medical graduates at Harvard University, who have been reputably engaged in the practice of medicine three years from the reception of the license or diploma, and have supported an honorable private character, may claim a right of admission. A candidate for admission by election must be nominated at a meeting of the counsellors by some one or more of the fellows of the society; and the person who has made the nomination, having satisfied the counsellors that the candidate is a respectable and honourable practitioner of medicine, he may be balloted for at any stated meeting of the counsellors after the expiration of three months. All Bachelors or licentiates in medicine, although not fellows, may claim the use of the society's library. It is the duty of the counsellors, once in three years, to publish a list of the most approved books, which should be read by medical students. The act of the legislature in 1813, authorizes the organization of district societies. Upon the application of any two members of the society, the counsellors may establish, within such districts and portions of the commonwealth as they shall

judge expedient, subordinate societies and meetings to consist of the fellows of the said corporation residing in such districts respectively, wherein the communication of cases and experiments may be made, and the diffusion of knowledge in medicine and surgery encouraged and promoted.

The honourable legislature continue to extend their liberal patronage and encouragement to this society. In 1810, they granted a township of land for its support, and they have exempted the fellows from serving in the militia, as a remuneration, in some degree, for their expense and exertions in promoting an institution of public interest and concern.

The most salutary and beneficial effects have already resulted to the community from the association thus patronized by the government. By far the greater portion of respectable practitioners of medicine and surgery established in business in the commonwealth, are associated and cemented, into one learned body, whose efforts are continually directed to the extension and increase of medical knowledge. Their united and individual influence are exerted in favour of a regular system of medical education, and in discountenancing those who undertake the important employment of the profession, without being qualified for the great and serious duties it imposes. They are, moreover, in some respects alert and vigilant guardians of the public health and welfare, regarding with peculiar interest, as a public calamity, the occurrence of every new epidemic or other disease, which assails the inhabitants of our country. The judicious measures adopted by the counsellors, relative to the cow-pox, in 1808, and the spotted fever, in 1810, have already been mentioned, and reference may be had to the society's communications for the detailed particulars of their valuable reports.

At an early period of the institution (1790) the society published their first number of medical papers, containing a selection of important communications. A deficiency of funds for a time retarded the subsequent numbers, but two volumes are now completed and distributed among the fellows of the society. In the last number will be found a brilliant and masterly dissertation on the mercurial practice in febrile diseases, by the president of the society, which is a valuable acquisition to the medical character of our metropolis, and of great utility to the physicians of the United

States. In 1808 a *Pharmacopœia* conformable to the modern chemical nomenclature, and designed to establish uniformity in the prescriptions of physicians, was published by the society as a standard work. This valuable production was adopted as the basis of a compilation by the author of this work, entitled "*The American New Dispensatory*," which was approved by a committee of the society. A second edition has since been published, and, as co-operating with the society's Pharmacopœia, and as an attempt to introduce many indigenous vegetables, as articles of our Materia Medica, it is hoped this Dispensatory may be found of some utility among the practitioners of our country.*

The counsellors and fellows, having laboured with unwearied assiduity to establish this institution on a respectable foundation, and having imbibed a tenacious concern for its interest and dignity, it was not to be expected that persons of deficient education, or undeserving character would be admitted to a participation of its honours and privileges. Accordingly, proper means were adopted to exclude all such from a fellowship, as will appear by the following extracts from the bye-laws of the society.

"*Candidates and their qualifications.* No person educated within the commonwealth shall be admitted to an examination by the censors of the society, or by those of any district society, unless he have the following qualifications. 1st. He shall have such an acquaintance with the Greek and Latin languages as is necessary for a medical or surgical education, and with the principles of geometry and experimental philosophy. 2nd. He shall have attended two full courses of lectures, and studied three full years under the direction, and attended the practice of some one or more of the fellows or honorary members of the society; during which time he shall have studied the most approved authors in Anatomy, Chemistry, Materia Medica, Surgery, Midwifery and the Theory and Practice of Medicine; or, at least, all those which the counsellors shall from time to time specify as constituting a proper course of medical or surgical education. No person educated out of this commonwealth shall be admitted to an examination, either by the censors of the society, or those of any district society, unless

* A fourth edition of the American New Dispensatory has been published, and is nearly all disposed of.

he have the qualifications specified in the first of the articles above mentioned, and instead of those required in the second, shall have studied three full years under the direction, and attended the practice, of some reputable physician or physicians, surgeon or surgeons, as the case may be. The censors of the society, and those of the several districts, before examining any candidate, shall demand and receive from him a satisfactory certificate of his being qualified in one or the other of the modes above mentioned.

"*Consultation.* To promote the laudable design of the legislature in forming and incorporating this society, to prevent, as far as may be, all unqualified persons from practising medicine or surgery, and in order to discourage empiricism and quackery, it shall be deemed disreputable, and shall be unlawful for any fellow of this society, in the capacity of physician or surgeon, to advise or consult with any person, who, having been a fellow of the society, shall be expelled therefrom, or with any person whatever, who shall hereafter commence the practice of medicine or surgery within this commonwealth, until he shall have been duly examined, and approbated by the censors of the society, or by those of some district society; or shall have received a degree of Bachelor or Doctor of Medicine at Harvard University; or, (in case he shall have been educated in, or come from some other state or foreign country) shall have produced to the censors of the society, or those of the district wherein he resides, such evidence or testimonials of his qualifications for the practice of medicine or surgery, as they deem and certify to be sufficient to entitle him to the privileges of a physician or surgeon regularly introduced. And every fellow of the society who shall abet or assist any person not so qualified, by affording him assistance in the capacity of physician or surgeon, shall, for such offence, be disqualified from giving his vote, at any meeting of the society, or of the district society whereof he is a member, for one year; shall be liable to the censure and reprimand of the counsellors, and, in aggrevated cases, to expulsion.

"If any fellow of the society shall *publicly advertise* for sale any medicine, the composition of which he keeps a secret; or shall, in like manner, offer to cure any disease by any such secret medicine, he shall be liable to expulsion, or such other penalty as the society, at their annual meeting, may think proper to inflict."

Officers of the Massachusetts Medical Society for 1825.

JAMES JACKSON, M. D. *President.*

ABRAHAM HASKELL, M. D. *Vice President.*

JOHN DIXWELL, M. D. *Corresponding Secretary.*

JOHN GORHAM, M. D. *Recording Secretary.*

JACOB BIGELOW, M. D. *Treasurer.*

GEORGE HAYWARD, M. D. *Librarian and Cabinet Keeper.**

MEDICAL SCHOOL AT HANOVER, NEW HAMPSHIRE.

The next medical school in course, is that of *Dartmouth College, at Hanover, New-Hampshire,* established in 1797. This school was founded by the ability and enterprise of Dr. Nathan Smith, who at that time had just returned from the University of Edinburgh, where he had spent some time for the completion of his studies. In 1798 he was appointed sole Professor of the school, and for 12 years gave lectures on the different branches of medicine, excepting two courses, in which he was assisted in the department of chemistry, and the institution has progressed to a respectable state of importance and usefulness. A considerable number of students have attended the annual courses of lectures, many of whom have been honored with professional degrees, by conforming to the university statutes, which are similar to those of Harvard University. Dr. Smith having relinquished his professorship in 1816, was succeeded by others, and the number of professors has been increased to three, as follows :

REUBEN D. MUSSEY, M. D. *Professor of Anatomy, Surgery and Obstetrics.*

DANIEL OLIVER, M. D. *Professor of the Theory and Practice of Physic, Physiology, and Materia Medica.*

J. FREEMAN DANA, M. D. *Professor of Chemistry, Pharmacy, and Legal Medicine.*

The lectures commence in September, and continue fourteen weeks. There will be four lectures daily. Fee for the course, $50. For matriculation, $2. Boarding may be had at $1 25

---

* The following gentlemen have held the office of President of the Society from the period of its first organization. :—

Edward A. Holyoke, M. D. 1782; William Kneeland, M. D. 1784; Edward A. Holyoke, M. D. 1786; Cotton Tufts, M. D. 1787; Samuel Danforth, M. D. 1795; Isaac Rand, M. D. 1798; John Warren, M. D. 1804; Joshua Fisher, M. D. 1815; John Brooks, M. D. 1823; James Jackson, M. D. 1825.

per week. An infirmary has recently been established in connection with the school, designed particularly for the instruction of the students, who will be admitted to operations upon infirmary patients. Graduations to take place at the close of the term and at the commencement. Many important additions have recently been made to their former valuable collection of anatomical and chemical preparations and apparatus. The number of students attending the lectures at this school in 1825, was eighty.

MEDICAL COLLEGE OF MARYLAND.

The Fifth Medical School constituted in our country, is the College of Medicine at Maryland, established at Baltimore. In 1804, Dr. B. Davidge commenced a course of lectures in Baltimore, on midwifery, to a class of six students. The year following, he lectured also on anatomy and surgery, to a class of seven students; and in 1806 to a class of nine students. In 1807, two eminent physicians, Dr. Cocke, of Virginia, and Dr. Shaw, of Maryland, united in the school, and lectures were given on the different branches of medicine. The same year a charter was granted by the legislature, and the school became regularly organized by the style of the College of Medicine, of Maryland. The medical department of this university, by the influence and zeal of its distinguished founder, and the labours of other eminent teachers, has been rapidly rising into importance, and at the present time is one of the most respectable institutions in the country. An infirmary has been recently erected in connection with the school, for the purpose of clinical instruction. There are seven professorships, and in 1824-5 the class was composed of 215 regular pupils.

The present faculty :—

John V. Davidge, M. D. *Professor of the Principles and Practice of Surgery.*

Nathaniel Potter, M. D. *Professor of the Theory and Practice of Medicine.*

Elisha De Butts, M. D. *Professor of Chemistry and Mineralogy.*

Granville Sharp Pattison, Esq. *Professor of Anatomy.*

Samuel Baker, M. D. *Professor of Materia Medica.*

Richard W. Hall, M. D. *Professor of Midwifery and the Diseases of Women and Children.*

Maxwell McDowell, M. D. *Professor of the Institutes of Medicine.*

MEDICAL INSTITUTION OF YALE COLLEGE.

The Legislature of Connecticut, in October, 1810, devised a system of medical education admirably calculated to accomplish the important objects in view. It is to include a complete circle of medical science, and to consist of four professorships. Lectures were commenced in 1813, and have been continued annually. Students are required to study physic or surgery with some professor or practitioner of reputable standing, for two years, if graduated at some college, otherwise, three years, and to have arrived at the age of twenty-one years. They shall attend one course of each of the above systems of lectures at Yale College, or of some other medical institution, previous to being admitted to an examination for a license; the said course of lectures being included within the term he is required to study. Candidates for the degree of Doctor of medicine are required to attend two courses of the above system of lectures at Yale College, or at some other public medical institution, where a similar course of public instruction is pursued. One meritorious and necessitous person from each county in the state, shall annually be allowed the privilege of attending one course of each of the systems of lectures gratis. For the benefit of the students, surgical operations, and attendance during confinement, are given gratis by the professors, to all such poor patients as apply and submit to operations in the presence of the class of medical students.

Professors in 1825 :—

Æneas Monson, M. D. *Pofessor of the Institutes of Medicine.*

Nathan Smith, M. D. *Professor of the Theory and Practice of Physic, Surgery, and Obstetrics.*

Benjamin Silliman, M. D. *Professor of Chemistry, Pharmacy, Mineralogy, and Geology.*

Eli Ives, M. D. *Professor of Materia Medica and Botany, and Lecturer on Diseases of Women and Children.*

Jonathan Knight, M. D. *Professor of Anatomy and Physiology, and Lecturer on Obstetrics.*

Number of students in 1825, was 75. The lectures commence the last week in October, and terminate the last week in February. During the course, from 50 to 100 lectures are given by each professor.

The students have access to the lectures on Natural Philosophy, on paying the fees of the course, and they may attend the lectures on Mineralogy and Geology, without charge. A distinct course is given on Obstetrics, by the professor of Anatomy, and another, on the elements of Botany, by the professor of that department. The examination for licenses and degrees is held immediately after the close of the lectures.

The Institution is furnished with a Library and Anatomical Museum. The students have access also to the Library of the College, and to the Cabinet of Minerals.

The fees, which are paid in advance, are 12 dollars and 50 cents for each course. The Matriculation fee and contingent bill, are 7 dollars and 50 cents. The entire expense of a residence of four months, through the courses, including fees and all expenses, except clothing, is from 120 to 150 dollars.

The medical students, during their residence in the Institution, are subject to the same moral and religious restraints, as those of the Academical College.

COLLEGE OF PHYSICIANS AND SURGEONS OF THE WESTERN DISTRICT OF THE STATE OF NEW-YORK.

In June, 1812, a new medical school was incorporated by the Regents of the University of New-York, into a College of Physicians and Surgeons. It was located in the town of Fairfield, Herkimer county, and encouraged by a liberal grant of $15,000 by the Legislature of that state. The year following, the school was organized by the trustees, and brought into operation with five professorships. In 1824–5, the medical class was composed of 120 students.

Joseph White, M. D. *President, and Professor of Surgery.*

Westel Willoughby, M. D. *Vice President and Professor of Obstetrics.*

James Hadley, M. D. *Professor of Chemistry and Materia Medica.*

T. Romeyn Beck, M. D. *Professor of the Theory and Practice of Physic, and Medical Jurisprudence.*

James M'Naughton, M. D. *Professor of Anatomy and Physiology.*

MEDICAL COLLEGE OF OHIO.

This institution was established at Cincinnati, in 1818, but has since undergone considerable changes, and for a time the lectures were suspended; but its labors have recommenced under a new charter of the Legislature, and the first course of lectures delivered after its reorganization, in 1824–5, was attended by 22 students. The present number of professorships is four. It has a hospital, to which the students are admitted for clinical instruction.

Jedediah Cobb, M. D. *Professor of the Institutes and Practice of Medicine.*

Elijah Slack, A. M. *Professor of Chemistry and Pharmacy.*

John Moorhead, M. D. *Professor of Materia Medica and Medical Obstetrics.*

Jesse Smith, M. D. *Professor of Anatomy and Surgery.*

VERMONT ACADEMY OF MEDICINE.

In 1818, the Vermont Academy of Medicine was established at Castleton, in that state, under the charter of Middlebury College. This school has five professorships. The medical students attending the last course of lectures were 124. Professors:—

William Tully, M. D. *Professor of the Theory and Practice of Physic, and Medical Jurisprudence.*

Theodore Woodward, M. D. *Professor of the Principles and Practice of Surgery, Obstetrics, and the Diseases of Women and Children.*

William Anderson, M. D. *Professor of Anatomy and Physiology.*

Amos Eaton, Esq. *Professor of Chemistry and Natural Philosophy, and Lecturer on Natural History.*

Jonathan A. Allen, M. D. *Professor of Materia Medica and Pharmacy.*

TRANSYLVANIA UNIVERSITY.

The medical school of Transylvania University was instituted in 1818, at Lexington, Kentucky. At the time of the first organization of the institution, five professorships were established, all of which have been filled. This school has experienced the most rapid growth of any in the United States. The first course of

lectures were delivered in 1819, to a class of 26 students. The medical class in 1824–5 amounted to 235. An infirmary is connected with the school, which affords an opportunity for clinical instruction to the class. At their commencement, in 1824, 46 young gentlemen were admitted to the degree of M. D. July, 1825, the degree of M. D. was conferred on 57 students. Number of the medical class, 272. Their anatomical museum comprehends a very ample variety of wax preparations. Two professorships have been added.

BENJAMIN W. DUDLEY, M. D. *Professor of Anatomy and Surgery.*

CHARLES CALDWELL, M. D. *Professor of the Institutes and Clinical Medicine.*

SAMUEL BROWN, M. D. *Professor of the Theory and Practice of Medicine.*

DANIEL DRAKE, M. D. *Professor of Materia Medica and Medical Botany.*

WILLIAM H. RICHARDSON, M. D. *Professor of Obstetrics, and the Diseases of Women and Children.*

JAMES BLYTHE, D. D. *Professor of Chemistry.*

ROBERT BEST, *Adjunct Professor of Chemistry.*

MEDICAL SCHOOL OF MAINE.

The Medical School of Maine was established at Brunswick, under the charter of Bowdoin College, in 1820. It has three professorships. Sixty students attended the course of lectures in 1824–5. The lectures commenced on the 20th day of February, 1826.

Theory and Practice of Physic, by HENRY H. CHILDS, M. D. Professor in the same department in the Berkshire Medical Institution.

Anatomy and Surgery, by J. D. WELLS, M. D.

Midwifery, by J. M'KEAN, M. D.

Chemistry and Materia Medica, by P. CLEAVELAND, M. D.

The anatomical cabinet is very valuable and extensive, containing all the preparations necessary for demonstrations, &c. The library already embraces the most valuable modern works on medicine, and its collateral sciences; and is every year enriched by new works, both foreign and American. Surgical operations,

when any occur, are performed in the presence of the students. Boarding from $1,50 to $1,75 per week; or, including washing, room-rent, fire-wood, and lights, $2,50. Fee for the lectures, $45.

MEDICAL INSTITUTION OF RHODE-ISLAND.

About the year 1756, a Dr. William Hunter, who had been educated at Edinburgh, gave, at Newport, the first anatomical and surgical lectures ever delivered in the American colonies. They were delivered two seasons in succession, and were then discontinued. In 1815, some arrangements were made for medical instruction in connexion with Brown University, at Providence, and several courses of lectures were given by William Ingalls, M. D. as Professor of Anatomy and Surgery, and Solomon Drown, M. D. Professor of Materia Medica and Botany. At their commencement, in September, 1816, we find the names of nine graduates mentioned as having received the degree of M. D. after the usual examinations, and having publicly read and defended medical dissertations. In 1821, the medical department of Brown University, at Providence, was organized with four professorships. Forty students attended the last course of lectures, 1825.

Levi Wheaton, M. D. *Professor of the Theory and Practice of Physic and Obstetrics.*

John De Wolf, A. M. *Professor of Chemistry and Pharmacy.*

Usher Parsons, M. D. *Professor of Anatomy, Physiology, and Surgery.*

Solomon Drown, M. D. *Professor of Materia Medica and Botany.*

MEDICAL SCHOOL OF VERMONT.

In 1822, the medical school of the University of Vermont, was organized at Burlington, and four professorships instituted. The lectures commence at Burlington, on the second Wednesday in September, and continue twelve weeks. Professors under the new organization—

Henry S. Waterhouse, M. D. *Professor of Surgery and Obstetrics.*

George W. Benedict, A. M. *Professor of Mathematics, Natural Philosophy, and Chemistry.*

JOHN BELL, M. D. *Professor of Anatomy and Physiology.*

WILLIAM SWEETSER, M. D. *Professor of Theory and Practice of Physic, and Materia Medica.*

Fees for the whole course, $40, and $3 in addition, to be paid by each student on becoming matriculated. This school, it is believed, offers to the student of medicine every advantage which can be obtained at any other medical institution of the same class. It has heretofore received a good share of public patronage, and the present professors pledge themselves to exert their best abilities, and to spare no expense which may come within their means, to increase its reputation and usefulness. It is situated in a populous and delightful village, where board may be obtained near the lecture rooms, on very reasonable terms. The medical class of 1824–5, was composed of 42 students.

BERKSHIRE MEDICAL INSTITUTION.

This flourishing institution was founded in 1822, and located in Pittsfield, Mass. under the charter of Williams College, of that state. This school has six professorships, occupied as follows :—

JOHN P. BATCHELDER, M. D. *Professor of Surgery and Physiology.*

JEROME V. C. SMITH, M. D. *Professor of General Anatomy and Physiology.*

HENRY H. CHILDS, M. D. *Professor of Theory and Practice of Medicine.*

JOHN DE LA MATTER, M. D. *Professor of Materia Medica, Pharmacy, and Obstetrics.*

STEPHEN W. WILLIAMS, M. D. *Professor of Medical Jurisprudence.*

CHESTER DEWEY, A. A. S. *Professor of Botany, Mineralogy, Chemistry, and Natural Philosophy.*

Ample provision has been made by the trustees, for the personal accommodation and instruction of those who may resort to the institution. They have in possession an extensive collection of minerals, a valuable herbarium, and an anatomical museum, embracing a great variety of models and preparations. The annual lecture term commences on the second Wednesday in September, and continues 15 weeks. Medical degrees are conferred at the close of the lectures, and at the annual commencement at Wil-

liams College. The requisites for an examination for a degree are, a good moral character, three years' study (including the time devoted to lectures) with a regularly practising physician, an adequate knowledge of the Latin language, and attendance on two full courses of lectures, one of which must have been in this institution. The examination of candidates for degrees commences on Thursday preceding the close of the lecture term. Dissertations must be lodged with the Dean of the Faculty at least four weeks previous to commencement. Fees for the whole course, $40. Graduating fee, $12. Matriculating Ticket, $3. Tickets of admission for those who wish to attend the lectures on Botany, Mineralogy, Chemistry, and Natural Philosophy, $6. Board, including washing, lodging, and room-rent, $1,75 per week. In 1824–5 ninety-four students attended the course of lectures. In 1825–6, 112 students attended.

MEDICAL COLLEGE OF SOUTH-CAROLINA.

In 1824, the Medical College of South-Carolina was established at Charleston. In this school there are seven professorships. Fifty medical students attended the first course of lectures delivered in 1824–5. The students have the privilege of attending the practice of the Marine Hospital.

John Edwards Holbrook, M. D. *Professor of Anatomy.*

S. Henry Dickson, M. D. *Professor of the Institutes and Practice of Physic.*

James Ramsay, M. D. *Professor of Surgery.*

Thomas G. Prioleau, M. D. *Professor of Obstetrics, and the Diseases of Women and Children.*

Henry Rutledge Frost, M. D. *Professor of Materia Medica.*

Edmund Ravenel, M. D. *Professor of Chemistry and Pharmacy.*

Stephen Elliot, LL. D. *Professor of Botany and Natural History.*

The lectures commence on the second Monday in November, and continue five months. To entitle an individual to examination for a degree, it is necessary he should have studied for two years with an established practitioner. Arrangements for private dissection are peculiarly attended to, and subjects are obtained in abundance, and with great facility. The college building contains a chemical laboratory, and the students have access, upon the

most liberal terms, to the select and extensive library of the medical society. The privilege of attending at the Marine Hospital and the Poor-House are obtained free of expense, and all operations in surgery at those establishments may be witnessed by the whole class.

MEDICAL SCHOOL OF JEFFERSON COLLEGE.

The Medical School of Jefferson College, Pennsylvania, was established, and located at Philadelphia, in 1824. This school has six professorships; and, though fully organized, has not yet been brought into operation. An infirmary is connected with the school, to which the students will be admitted for clinical instruction.

JOHN EBERLE, M. D. *Professor of the Theory and Practice and Clinical Medicine.*

GEORGE M'LELLAN, M. D. *Professor of Surgery.*

JACOB GREEN, A. M. *Professor of Chemistry.*

B. RUSH RHEES, M. D. *Professor of Materia Medica.*

F. S. BEATTIE, M. D. *Professor of the Institutes of Medicine, and Midwifery.*

NATHAN R. SMITH, M. D. *Professor of Anatomy and Physiology.*

MEDICAL SCHOOL OF THE COLUMBIAN COLLEGE.

The medical department of the Columbian College, in the district of Columbia, was instituted in the year 1824, under a charter of the Congress of the United States. The first course of lectures on the different branches of medicine was delivered in the spring of 1825, to a class of 22 students. The second course was commenced in November following, with a class of thirty students. An infirmary is connected with the school, to which the students are admitted for clinical practice and operative surgery, free of expense. The students are also permitted to attend, gratuitously, the lectures in the classical department of the college, on Natural and Experimental Philosophy, Astronomy, Botany, and Natural History. The peculiar advantages which this institution derives from its location, being established at the seat of the national government, as well as from the situation of the surrounding country, promises to become, under the zeal and enterprize of

its learned professors, one of the most important and useful medical schools of our country. The medical faculty are—

Thomas Sewall, M. D. *Professor of Anatomy and Physiology.*
James M. Stoughton, M. D. *Professor of Surgery.*
Thomas Henderson, M. D. *Professor of the Theory and Practice of Medicine.*
N. W. Worthington, M. D. *Professor of Materia Medica.*
Edward Cutbush, M. D. *Professor of Chemistry.*
Frederick May, M. D. *Professor of Obstetrics.*

In order to embrace all the benefits of a winter school, the lectures will annually commence on the first Monday in November, and continue to the last of February. During this period, lectures will be delivered daily, and full courses be given on the various branches of medicine. Such arrangements have been made as will furnish the professor of Anatomy with materials for demonstration, and the class with ample opportunity for the cultivation of practical Anatomy. Provision has also been made for exhibiting to the class the clinical practice and operative surgery in the Infirmary of the Washington Asylum, free of expense. The extensive and complete apparatus of the professor of Chemistry will afford every facility for displaying the experimental parts of that science. Each student, before he can receive the ticket of any professor, shall pay five dollars to the Treasurer of the College. The fees for attendance on the lectures shall be $15 to each professor for the course. All students who shall have attended two full courses in this school, shall be entitled to attend succeeding courses free of expense. No student shall be admitted to examination for a medical degree, till he shall have attended each professor during two full courses, or one full course in this College, and one in some other respectable medical institution, and shall have studied three years under the direction of some regular physician. He shall have satisfied the medical professors of his classical attainments, if he be not a graduate in the arts. He shall have entered his name with the Dean of the medical department, as a candidate for graduation, and delivered to him an inaugural dissertation on some medical subject, thirty days at least before the close of the course. There shall be an annual commencement for conferring medical degrees, the time of which shall be as early after the close of the lectures as the examination of the candidates

will admit. Before a candidate can receive the degree of Doctor of medicine, he must pay $30 for examination, and $5 for his diploma.*

It may not be deemed improper to observe, that the introductory lecture, by the professor of Anatomy and Physiology, in March, 1825, displays that talent and scientific intelligence which should characterize the professors of our medical schools, and which may be considered as a happy presage of the future success and prosperity of this establishment in the metropolis of our nation. A few detached paragraphs from this excellent production are introduced here, as follow :—

"When we consider this as the place which has been selected by our country as the seat of its National Government; the residence of the chief magistrate of the Union, the heads of departments, the ministers of foreign courts; the place where our Senators, Representatives, and Supreme Judiciary, annually assemble to transact the affairs of the nation; we cannot doubt but it is destined, ere long, to fulfil the expectations of its immortal founder, and become worthy to be the metropolis of this great Republic." Here is "that neutral ground on which the young men of Maine and of Georgia, of Pennsylvania and Missouri, of Florida and Michigan, may meet and mingle together; read the same books; pursue the same studies; hear the same lectures; imbibe the same spirit; and form mutual and lasting attachments," &c. &c. This elegant production closes thus: "Who knows but some bold and fortunate genius, who shall have his zeal first enkindled in this school, may be destined,while climbing the Rocky Mountains, or exploring the vale of the Mississippi, to discover a plant or a mineral which shall prove a cure for hydrophobia, or a remedy for consumption?—or find out on the shaking prairie of Louisiana, or at the mouth of the Mobile, the true nature of miasmata, and the mode of its operation on the human body? Who knows but this school may be destined to produce a Sydenham, a Harvey, a Hunter, or a Bichat?—or to give to the world a Bard, a Rush, a Warren, a Barton, or a Wistar?"

* Good board may be obtained for students, at from 3 to 5 dollars per week.

MEDICAL SCHOOL OF AUBURN, NEW-YORK.

The medical school of Auburn was established in 1825, and has five professorships.

James Douglass, M. D. *Professor of Anatomy and Physiology.*

Pliny Hayes, M. D. *Professor of the Principles and Practice of Surgery.*

E. D. Tuttle, M. D. *Professor of Theory and Practice of Physic.*

S. Mosher, M. D. *Professor of Midwifery and Diseases of Woman and Children.*

Jedediah Smith, M. D. *Professor of Chemistry and Materia Medica.*

MEDICAL SCHOOL OF THE VALLEY OF VIRGINIA.

In 1826, the Medical School of the Valley of Virginia was established at Winchester, in that state, and has four Professorships.

John G. Cooke, M. D. *Professor of the Theory and Practice of Physic and Obstetrics.*

Phillip Smith, *Professor of Materia Medica.*

H. H. Mc Guire, M. D. *Professor of Anatomy and Physiology.*

A. F. Magill, M. D. *Professor of Surgery and Chemistry.*

By the establishment of medical schools and societies throughout our country, within the last forty years, most important improvements have been made in almost every branch of medicine, and it must gratify every patriot to know that our own countrymen have acted a very conspicuous part in effecting an object, in which the interests of mankind are so deeply concerned. These circumstances will be hailed as propitious omens of the prosperity and literary fame which await our aspiring citizens. Important and auspicious effects are already visible in the character of our physicians. A thirst for the acquisition of knowledge, a laudable emulation, a taste for observation, inquiry and research, have been excited, and the talents and efforts of medical men in various sections of the Union have been combined.

Within the last thirty years, medical publications have greatly multiplied in the United States, and many of them reflect honour, both on their authors and on the national character. The numerous and valuable works of our late medical philosopher, Professor Rush, hold the first rank in the American catalogue. These, with the learned productions of Professors Barton, Mitchell,

and Hosack, have been translated into various foreign languages, and received the meed of applause from some of the most celebrated characters of the European continent. There are numerous other writers in the United States, who, by their labours, have honourably contributed to our domestic literature and science. Many handsome specimens of ability, industry and learning, will be found among the various inaugural dissertations published by the students of our medical schools; and the most considerable portion of our journals and other periodical publications, in point of merit and utility, may vie with the long established vehicles and repositories of medical intelligence beyond the Atlantic.

The first periodical publication, consecrated to medical science in the United States, was the Medical Repository, a valuable production, commenced in the year 1797, by the ingenious editors, Drs. Samuel L. Mitchell, Edward Miller, and Elihu H. Smith, of New-York. The fame of this work has extended not only through our own, but to different foreign countries, and its high character is universally acknowledged. Although Dr. Miller, one of the learned editors, has ceased from his labonrs, his active spirit still lives, to inspire his surviving associates in the work which he commenced, and which has contributed so essentially to the growing fame of his country.

The Medical Repository is not now our only medium of medical intelligence. Many others of real merit have since been introduced; among which are Dr. Barton's "Philadelphia Medical and Philosophical Journal," and "the Medical and Philosophical Register," a respectable work, by Dr. Hosack, of New-York; Dr. Coxe's valuable "Medical Museum" is discontinued. The "New-England Journal of Medicine and Surgery" commenced in Boston, with the year 1812. It is edited by gentlemen of professional eminence, and evinces the talents and ardour for medical improvement which distinguish the faculty of Massachusetts. In addition to many valuable original essays, it exhibits to the American student and physician the earliest information of whatever is new, ingenious, or useful, in foreign publications, connected with the science of medicine.

The plans and means of instruction in our establishments and seminaries, are continually meliorating and improving. The road to medical knowledge is laid open, and is fraught with allurements.

Emulation and fashion are directing their votaries into its various avenues, and conducting them to the fountain of professional honours, distinctions, and emoluments. Instead, therefore, of humbly reaping the fruits of European fields, let us assiduously cultivate and diffuse the ample advantages to be found in our own. The opportunities of practical instruction, which our epidemic and endemic diseases of the hot season afford, are peculiarly interesting and important. They impart to young students a knowledge, which they cannot acquire in Europe, of the causes, symptoms, prevention and cure of the diseases of the country in which they are to practice. In duly appreciating our own institutions and advantages, we advance the interests and reputation of our country, and prevent the necessity of students resorting to Europe, and subjecting themselves to heavy expenses to qualify them for the practice of medicine.

With respect to theoretical systems, those of the celebrated Cullen and Rush, improved and modified according to the judgment of the respective professors, are in general adopted and taught in the various American Universities.

In the art of surgery, the leading authorities are Pott, the Bells, Desault, the Coopers, Abernethy, Cline, Home, Latta and Hey, to which we may add our own countrymen, Dr. Physick, Dr. Gibson, and the late Dr. Dorsey, of Philadelphia, Drs. Post and Mott, of New-York, and the late Dr. John Warren, and Dr. John C. Warren, of Boston, and others, whose names we may with pride associate with those who have adorned the annals of surgery, in either hemisphere, in ancient or modern times. In the departments of chemistry and botany, the most modern European authors are consulted, together with the labours and improvements of our own enlightened professors. American botany is now cultivated with that ardour and solicitude, which the importance of the subject demands, and many indigenous medical plants have been introduced as new articles of our materia medica.

We have now detailed, in the order of time of their respective establishments, no less than twenty medical schools and colleges in the United States, and there is the best reason to believe that they have been organized with great judgment, and are conducted with commendable zeal and ability. It will be perceived that a course of lectures is given in all the institutions on the various

branches of medical science, from three to five months annually. The subjects of anatomy and surgery are illustrated by dissections and operations on the dead subject, and by models, drawings, and dried preparations; the subject of chemistry, by the exhibition of chemical experiments. Most of the schools are in possesion of valuable medical libraries, anatomical and mineralogical cabinets, museums, &c., and, in almost all instances, hospitals or infirmaries are established in connexion, affording the young student the best possible opportunities of improvement in practical medicine. Every school is invested with the power of conferring medical degrees on those who, on examination, are found to be entitled to such honours; the manner and form are nearly similar in all the schools. Such is the unexampled progress in medical improvement, and the ample means of instruction at the present day, although "one hundred and fifty-eight years of our history elapsed, after the first settlement of America, before a single medical school existed in the country." No less than fifteen institutions for medical instruction, have been established within the last seventy-three years. And though sixty years ago one only was established, and but ten pupils to attend its lectures, we may at the present time boast of twenty schools, occupying the combined talents of about ninety eminent Professors, imparting, at the sessions of the several schools in 1824–5, public instruction to more than two thousand young students, and at the lecture term the present season, the number has probably increased. Besides the numerous seminaries already noticed, medical societies for the regulation of the practice of physic, and the suppression of quackery and empiricism, have been formed in most of the states in the union. The establishment of these institutions originated with the Legislature of Massachusetts, who in the year 1781, incorporated the first body of this description, by the name of the Massachusettss Medical Society. The views and designs of the founders of this excellent institution, with the very important advantages which have resulted to the community by its operation, have already been detailed at page 39. "Similar societies," says Professor Sewall,* "have since been incorporated by the Legislatures of Maine, New-Hampshire, Vermont, Rhode Island, Connecticut, New-York, New-Jersey,

* See Introductory Lecture at Columbian College, March 30, 1825.

Delaware, Maryland, Virginia, South Carolina, Georgia, Mississippi, Alabama, Louisiana, Ohio, Indiana, and Illinois, besides one in the District of Columbia, constituted by an act of Congress. We have, therefore, at this time twenty State Medical Societies, most of which have subordinate branches in the different districts or counties; besides numerous other associations, instituted for similar purposes, in our principal towns and cities. In some of the states, where such societies exist, persons who are not licensed are permitted to practise, and are allowed the benefit of the law; and in some of the states, a severe penalty is inflicted for prescribing medicine without a licence. The good effects of the latter regulation are strikingly exemplified in the exemption of Maryland and the District of Columbia from those quacks and impostors which are still found in some other parts of our country. These societies, wherever they have been established, have promoted a spirit of harmony among the members of the profession, and at the same time excited a degree of emulation, and a spirit of medical inquiry, which have been highly beneficial, and, while they have given character and respectability to the practice of medicine, they have been signally useful in protecting the community against impositions and quackery." "Besides our medical schools and medical societies," says Professor Sewall, "dispensaries, hospitals, infirmaries, and asylums for the reception of the poor, the sick and insane, have been established in almost every part of the country. Several hundreds of these institutions, supported by public endowments or private charity, are found in the United States; and while they afford means of protection and relief to a large portion of the helpless and suffering part of the community, they furnish ample opportunities to the medical student to investigate the causes and nature of diseases, and become acquainted with the operation of remedies; thus uniting the objects of humanity and the advancement of medical science. This is not all that has been done in America for the interest of medicine. We have already produced some of the best works of the present day on anatomy, surgery, the theory and practice of physic, materia medica, pharmacy, chemistry, obstetrics, and medical jurisprudence; works which have not only been adopted as the text books of our schools, but have been republished abroad, and received the highest commendation of European professors. Our periodical jour-

nals, of which we have no less than twelve, published quarterly, or at less intervals, besides hospital reports and the transactions of medical societies, abound with original papers, and many of them of great value. It must be gratifying to every American to know, that the medical literature of the United States is at this time sought for, and read with avidity in every part of the civilized world; while much of it is translated into the French, the German, and Italian languages, and republished in the journals of those countries; the highest compliment that could be paid to the genius and industry of our physicians. Such has been the progress of medical science in the United States. If its advancement in the early periods of our country was slow and obscure, its improvement in later times has been rapid, beyond a parallel in the history of the world. What age, or nation, has produced in a little more than half a century, a system of medical education and of of medical police to be compared with that of our country? At what period, or in what nation can seventeen medical schools, twenty medical societies, more than two hundred hospitals, and other infirmaries for the sick, twelve periodical journals,—to say nothing of other works on the various branches of medicine,—be found the product of sixty years? Or where shall we find the salutary effects of medical education so extensively diffused, or so strikingly illustrated, as in the United States? If we have produced no medical school which has dictated to the world the doctrines that should be taught and believed, it is because freedom of inquiry, independence of thought, aud equality of condition, constitute the predominant features of our country, and enter into the genius of all our institutions. If we have produced no fortunate genius, whose discoveries have at once revolutionized the science, or established a new era in medicine; we have produced a host of able teachers, successful practitioners, and some of the best writers of the age." "If much has already been accomplished, much still remains to be done. Though our large towns and cities, and the more populous parts of our country are supplied with well educated physicians, a large portion of our territory, remote from the schools, is still without those who have enjoyed the benefits of public instruction. If we have ten thousand physicians, as computed by a late writer, we have more than fifteen thousand practitioners of medicine, many of whom have never heard a public lecture,

or seen a demonstration in anatomy. And, until medical schools be more extensively established through the country, many who enter the profession, must necessarily be deprived of the privileges of a regular education." "If, in sixty years, with the limited means we have possessed, and with all the difficulties we have had to encounter, we have produced the best system of medical education, the most perfect code of medical police that has been exhibited to the world; if we have produced some of the best practical and elementary books, and some of the most eminent physicians and surgeons of any age or country; if we have done this in the short period of sixty years that are passed, what will be our advance in sixty years to come? May I not with propriety, to use the language of a distinguished scholar of our country, say on this, as he said upon another occasion, 'He who shall stand where I stand sixty years hence, and look back on the present condition of medical science from a distance equal to that from which we contemplate the founding of the first medical school in America, will sketch a contrast far more astonishing, and will speak of our times as the day of small things, in stronger and juster language than any in which we can depict the poverty of the science in the days of our fathers.'" The foregoing sentiments of Professor Sewall, as respects the multiplication of medical schools, and the increased facilities of acquiring professional knowledge, cannot but receive universal acquiescence, as a happy display of the prosperity of our country, and auspicious to our national character. But it may be queried whether we have by our numerous establishments advanced to such a state of perfectability as to decide whether our systems are to be considered as actual improvements on those of Europe, or is it problematical whether our twenty schools, and more than ninety Professors, act with more real efficiency than if the aggregate labours were concentrated into three or four institutions, advantageously located, with less than half the number of Professors, and may it not be inquired, whether our two thousand students quit the institutions possessed of all those scientific attainments, which, in European schools, are deemed indispensable? In some of our cities, instances have not been wanting to prove that prosperity and successful progress depend less upon the number of schools, than the harmoniously combined efforts of a single institution. Nor is it to be supposed that *all* our

Professors and teachers can have experienced snch advantages as to render them intrinsically qualified to discharge the duties which are imperiously incumbent upon them. Another point may also be questionable, whether a short session, as in some of our schools, and the daily lectures of six or seven Professors, is not calculated to confuse and overwhelm the mind of the student, without affording a fair opportunity to treasure up and retain those lessons which are intended for his instruction? It seems to be important that uniformity in discipline and bye-laws should prevail in all our medical schools, that students may find no temptation to resort to a particular institution, with the view of obtaining a doctorate in medicine on terms more favourable and convenient. Collision and rivalry ought on every occasion to be reprobated, by all who have at heart the true interest and honour of the profession. But so multiplied and copious are now the fountains of medical honours, that the streams flow into every one's soil, and the diploma waits to announce talent and acquirements with surprising facility.

The following is a catalogue of periodical Journals on Medicine and Surgery, published in the United States.

The New-York Medical Repository was the first, and was commenced in that city in 1797, by the joint labors of Doctors Samuel L. Mitchell, Edward Miller, and Elihu H. Smith. Since the commencement of this work, a succession of periodical journals have been established, among which are—

The Philadelphia Medical and Physical Journal, in	1804
Philadelphia Medical Museum, in	1805
Baltimore Medical and Physical Recorder, in	1808
New-York Medical and Philosophical Journal and Review, in	1809
American Medical and Philosophical Register, (at New-York), in	1810
The American Mineralogical Journal, (at New-York), in	1810
Eclectic Repertory, (at Philadelphia), in	1811
Baltimore Medical and Philosophical Lyceum, in	1811
New-England Journal of Medicine and Surgery, (at Boston), in	1812
American Medical Recorder, (at Philadelphia), in	1818
Philadelphia Journal of Medical and Physical Sciences, in	1820
American Journal of Science and Arts, (New-Haven), in	1821

New-York Medical and Physical Journal, in 1822
Western Medical Reporter, (at Cincinnati, Ohio), about 1822
Hartford Analectic Journal of Medicine and Surgery, in 1823
Boston Medical Intelligencer,* in 1823
Medical Review and Analectic Journal, (at Philadelphia), in 1824
New-York Monthly Chronicle of Medicine and Surgery, in 1824
Carolina Journal of Medicine, Science, and Agriculture, (at Charleston), in 1825

"Several of the journals which have been established, are discontinued, and others have assumed a different title. Twelve only are published at the present time, though five more are soon to be added to this number."

The Counsellors of the Massachusetts Medical Society have given notice, that candidates for examination before the Censors, shall give evidence of having read or studied the books whose titles are contained in the list which follows, viz.

The Edinburgh System of Anatomy.
Bell's System of Anatomy, or Wistar's Anatomy.
Haller's First Lines of Physiology.
Richerand's Elements of Physiology.
Bichat on Life and Death.
Bichat's General Anatomy, translated by Dr. Hayward.
Beclard's Additions to Bichat's General System of Anatomy, translated by Dr. Hayward.
Lavoisier's Elements of Chemistry.
Gorham's do. do.
Pharmacopeia of the United States.
Bigelow's Sequel to the Pharmacopeia.
Thacher's Dispensatory.
Cooper's Surgery, or Dorsey's Surgery.
Boyer's System of Surgery.
Boyer on the Bones.
Hunter's Treatise on the Blood, Inflammation, and Gun-shot Wounds.

* This interesting production, is on the plan of a weekly newspaper of eight pages. It is conducted with intelligence and good judgment, and is entitled to the favourable notice of practitioners generally.

Burns' Anatomy of the Gravid Uterus.
Denman's System of Midwifery.
Denman's Aphorisms.
Good's Physiological System of Nosology.
Good's Study of Medicine.
G. Fordyce's Dissertations on Fever.
Armstrong's Illustrations of Typhus, &c.
Sydenham's Works.
Heberden's Commentaries on Diseases.
Underwood on Diseases of Children.
Hunter's Treatise on Lues Venerea.
Baillie's Morbid Anatomy.
Cook's Abridgment of Morgagni on the Seats and Causes of Diseases.

"Although the books mentioned in the foregoing list are all that candidates are required to have read, yet the counsellors believe that many more may be carefully read, during the period of pupilage, and they have therefore prepared another list of books, which they recommend for the perusal of students in medicine." The ample list just mentioned may be found in the New-England Journal of Medicine and Surgery, Vol. XV., page 215.

BOOK I.

CHAPTER I.

OF THE NONNATURALS.*

PREVIOUS to entering on the principal subjects of this work, it will be proper to take a brief view of the several agents or causes which influence the human constitution, and, according to their nature or operation, conduce to health or disease.

By the singular term *nonnaturals*, the ancients understood those things which are natural in themselves, and necessary to our existence; such as affect mankind, without entering into his composition, or constituting his nature. The term comprehends air, meat and drink, sleep and watching, motion and rest, retention and excretion, and the affections of the mind:—the whole of which may be included in the term *Dietetics*.

Of Air, or Atmosphere.

Air is that invisible, transparent, compressible, and elastic fluid, which every where surrounds our globe; and which generally receives the name of atmosphere. It is the medium in which we breathe, and without which we cannot exist. It is now very generally understood, that the atmospheric air, or that by which we are usually surrounded, is not a simple, but a compound body, consisting of at least four distinct substances, namely, oxygen, azote, carbonic acid, and aqueous vapour. The two former sub-

* In treating of the Nonnaturals, I am assisted by Thompson's Family Physician, Dr. Willich, and other late writers.

stances, however, constitute almost the whole of the atmospheric air near the surface of the earth; the other two are variable in their proportion, and exist only in minute quantities, which it is difficult to appreciate. There are various methods known to chemists, by which these two airs may be separated from each other. Vital air, or ogygen, which constitutes about one fourth of the atmosphere, is necessary to respiration and combustion, and an animal immersed in it will live much longer than in the same quantity of common air. The remaining three fourths, called azote, or mephitic air, is totally incapable of supporting respiration or combustion for an instant. If a candle be included in a given quantity of atmospheric air, it will burn only for a certain time, and then be extinguished, as the oxygen is all absorbed, and the azote which remains is incapable of supporting flame. If an animal be immersed in a given quantity of common air, it will live only a certain time, at the end of which, the air will be found diminished about one fourth, and the remainder will neither support flame nor life. It appears that three parts of azote, and one of oxygen, will form a compound similar to atmospheric air, and is that which is best suited to support the health of the body. Were the atmosphere to contain a much larger proportion of oxygen, by its powerful influence on the system, inflammatory diseases would be induced, and the excitability be sooner exhausted. If, on the other hand, a much less proportion of oxygen should prevail in the atmosphere, there would be a deficiency of stimulus, and the excitability of our systems would morbidly accumulate, and diseases of debility would be the consequence.

The oxygen which is received into the lungs of animals, is supposed to communicate the red colour to their blood, and to impart heat and activity to the system. When animals die for want of vital air, their blood is always found black.

There is a constant consumption of the oxygenous portion of atmospheric air, by the burning of combustible bodies; by the fermentation and putrefaction of vegetable and animal substances; and by the calcination of metals. A greater or less proportion, therefore, of the noxious ingredient, azote, in our atmosphere, undoubtedly arises from the innumerable processes of combustion, putrefaction, and respiration of men and animals, particularly in populous cities, the atmosphere of which is almost constantly prejudicial to health. The atmospheric air is never absolutely

pure and salubrious in any situation, but always mixed with heterogeneous particles, and the different states and changes produce very perceptible effects on the constitution. Warm air, if long continued, relaxes the solid parts of the body, quickens the circulation of the fluids, dissipates the watery part of the blood, renders the bile acrimonious, and produces disorders in the bowels, and fevers of a malignant kind. A moist air, is universally the most productive of diseases, but when heat and moisture are combined, it is of all conditions of the air, the most destructive to the constitution, by impairing the elasticity of the solids, obstructing perspiration, and disposing to putrefactive diseases. A cold state of the air, if not excessive and long continued, is favorable to bodily vigour, especially in those who are accustomed to take active exercise; but extreme cold air, by constringing the solids, and condensing the fluids, diminishes perspiration, and often occasions rheumatisms, catarrhs, and other affections of the lungs. The conjunction of dry and cool air, is attended with salubrious effects, but a pure dry air, moderately warm, is, of all, the most agreeable and salutary. All great and sudden changes from a warm to a cold air, and the reverse, produce in general a variety of complaints, and frequently, diseases of a fatal tendency. The surest mark of a salubrious and good air in any place, is the longevity of the inhabitants.

Winds, or currents of agitated air, likewise produce very sensible effects on the human constitution. A wind blowing steadily from the north, purifies the atmosphere of noxious vapours, renders the air serene and dry, by which the system is invigorated, and rendered active, though to persons of delicate habits it may prove severe and injurious. An easterly wind, is cold without bracing, and in our climate, is incomparably the most of all others uncomfortable, and the most prejudicial to health, especially to valetudinarians. To the asthmatic, and such as are disposed to intermitting fevers, it is particularly injurious. "The coldness of our easterly winds in the spring, is such as to occasion very uncomfortable sensations in the generality of persons exposed to their influence. It has been remarked, that the solvent power of an easterly wind upon the water is astonishingly great. After blowing over a large tract of the ocean, it contains much water, but is chemically combined with it, and consequently transparent; it is also observed to take up more vapour from the ponds and

meadows over which it passes, than that which blows from any other quarter. The thermometer, of course, discovers the increase of cold consequent upon this evaporation."* It has been observed that long continued easterly wind, renders people who are naturally of a mild and placid temper, irritable and morose; and that instances of suicide are more frequent in those countries and seasons where easterly winds are generally prevalent. The south wind is frequently accompanied with a latent humidity, which relaxes the body, and disposes to affections of the head and breast.

The atmospheric air, as already observed, is incessantly corrupted by the respiration of men and animals, and by dissolution and putrefaction of innumerable substances. In populous cities, the air is constantly contaminated with sulphur, smoke, and a variety of other exhalations of a deleterious tendency, and from which asthmatic and consumptive persons, and likewise those of weak nerves, experience the most prejudicial effects. It is therefore apparent, that persons of this description ought, as much as possible, to avoid the corrupt air of large towns, or at least to change the air by frequently visiting other situations. In the open country there are few causes to contaminate the atmosphere, and the vegetable productions are continually tending to render it more pure. The winds which agitate the atmosphere, and constantly occasion its change of place, waft the pure country air to the inhabitants of cities, and dissipate that from which the oxygen has been in a great measure extracted. Were it not for this wise provision of the Author of nature, from the daily combustion of an immense quantity of fuel, the numerous substances constantly undergoing putrefaction, and the exhalations from a large number of people and animals, the air in populous towns must soon become unfit for the purposes of life. The numerous chimney-fires in cities serve also an excellent purpose by rarefying the atmosphere, and thereby obviating the mischiefs which otherwise might ensue. The great importance of a pure air for the preservation of the lives of children, is placed in the clearest light by the following instance. "In the lying-in hospital at Dublin, two thousand, nine hundred and forty-four infants, out of seven thousand, six hundred and fifty, died in the year 1782, within the first fort-

* Warren on Mercurial Practice.

night after their birth, which is nearly every third child. They almost all died in convulsions; many of them foamed at the mouth, their thumbs were drawn into the palms of their hands, their jaws were locked, the face was swelled and looked blue, as if they were choked. This last circumstance led the physicians to conclude that the rooms in the hospital were too close, and hence, that the infants had not a sufficient quantity of good air to breathe; they therefore set about ventilating them better; which was done very completely. The consequence is, that not one child dies now where three used to die." The air of any place, where a numerous body of people are collected together, especially if, to the breath of the crowd, there be added the vapours of a great number of candles or lamps, is rendered extremely prejudicial, as it occasions great consumption of oxygen. The fact is well known, that when air has been long confined and stagnated in mines, wells and cellars, it becomes so extremely poisonous, as to prove immediately fatal to those who imprudently attempt to enter such places. No person should descend into a well or cellar, which has been long closed, without first lowering down a lighted candle; if it burn clear, there is no danger, but if it cease to burn, we may be sure that no one can enter without the utmost danger of immediate suffocation. It sometimes happens also, that when air is suffered to stagnate in hospitals, jails, ships, &c. it partakes of the same unwholesome and pernicious nature, and is a source of disease. It is obvious, therefore, that in all confined or crowded places, the correcting of vitiated air by means of cleanliness, and frequent ventilation, is of the highest importance. The most effectual preservative from foul air, and consequently from putrid diseases, is a rigid observance of the means of cleanliness in every particular; no accumulation of filth about houses, clothes, or in the public streets should, on any pretence, be suffered to continue, especially during the heat of summer. The pestilential effects which may be the consequence of a neglect of this salutary principle are almost inconceivable.

The air is often rendered impure by hot fires or stoves in small rooms not sufficiently ventilated; this is peculiarly prejudicial to those who are subject to pulmonic complaints, and it ought to be cautiously guarded against. "The warm rooms, which are usually an appendage to the luxury of the capitals, and thin clothing abroad, lay the foundation for many of those complaints, which are the pre-

cursors of consumptions. It is thus that catarrh usually originates in this country; and this always debilitates the lungs, and often terminates in consumption." It is a very injurious custom for several persons to sleep in a small apartment, and, if it be very close, and a fire be kept in it, the danger is increased; and from this cause persons have sometimes been stifled in the night when asleep. It is deemed unsafe to leave the windows of a bed room open at night during the summer months, as perspiration might be checked by the cool night air, while the pores are relaxed by the heat of the day, and the warmth of the bed. The vapour of *charcoal*, when burnt in close apartments produces the most dangerous effects. Our houses, which are made close and almost air tight, should be ventilated daily, by admitting a free circulation of air to pass through opposite windows; and even our beds ought to be frequently exposed to the influence of the open air. Churches, and other public buildings, if shut up for any length of time, and not properly ventilated by fires or open windows, and, especially, if not kept clean, are found to contain a damp, musty and contaminated air, which proves extremely prejudicial to weak constitutions. Houses situated in low marshy countries, or near lakes and ponds of stagnant water, are constantly exposed to the influence of putrid vapours, which exhale from such noxious sources. To obviate this evil, fires should be made during a sickly season, between the house and the place from which the putrid exhalations arise. But a very fertile and reprehensible source of poisonous vapours contaminating the air, is that of church yards situated in the middle of populous towns. The practice of depositing dead bodies in churches, is still more liable to censure, as this forms a constant source of putrid vapours however imperceptible, which cannot fail to prove greatly destructive to health.

Among the most powerful means furnished by nature of correcting air, which has become unfit for respiration, is the growth and vegetation of plants. The generality of plants possess the property of correcting the most corrupt air within a few hours, when they are exposed to the light of the sun; during the night, or in the shade, however, they destroy the purity of the air, which renders it a dangerous practice to allow plants to vegetate in apartments occupied for sleeping. In order to a more correct understanding of the qualities and effects of air, it is necessary to advert to that property of living bodies which renders them susceptible of exter-

nal influence, generally termed *excitability*. "There are, according to Dr. Garnett, three states in which living bodies exist: 1. A state of accumulated excitability. 2. A state of exhausted excitability. 3. When the excitability is in such state as to produce the strongest and most healthy actions, when acted upon by the external powers. These leading principles are of great importance, in many cases towards ascertaining more determinate rules of conduct relative to the prevention and cure of diseases." When the system is in such a state as to be very susceptible of the action of external powers, the excitability is said to be *abundant* or *accumulated;* in a contrary state of the system, the excitability is said to be *deficient* or *exhausted.* When the action of the exciting powers ceases for some time, the excitability accumulates, or becomes more capable of receiving their action, and is more perfectly affected by them. This proposition may be exemplified by the effect of heat upon our bodies. If heat be for some time abstracted, the excitability accumulates; or, in other words, if the body be for some time exposed to cold, it is more liable to be affected by heat afterwards applied. For instance, if one hand be put into cold water, and then both be put into water which is considerably warm: the hand which has been in cold water will feel much warmer than the other. If one hand be plunged into snow, while the other is kept of the same heat as the body, and then both held near the fire, the heat will affect the cold hand infinitely more than the warm one. In like manner, when the body has been exposed to excessive cold for some time, the excitability will be so greatly accumulated that if the heat of a fire be suddenly applied, it will act with such violence as to occasion a high degree of inflamation, and even mortification may be the consequence. Hence chilblains, and other inflammatory affections, are common with those whose hands and feet are exposed to violent cold, or wet with snow, and receive the heat of a fire without being first put into cold water or rubbed with snow.

The great changes in the temperature which the air undergoes, must have very considerable influence upon the constitution. In our climate the air varies from several degrees below the freezing point, to more than ninety-five degrees of heat. We then experience the extremes of cold and of heat, by which our bodies are unavoidably relaxed, and our constitutions exhausted. Heat possesses

the property of stimulating, and acting upon the excitability, by which animal life is supported and continued, and without which we could not exist even for a few minutes. In a moderate temperature of air, the stimulus of heat acts upon the excitability without exhausting it to such a degree as to occasion disease. But when the degree of heat in the atmosphere is much increased, and continues for a considerable time, an exhaustion of the excitability, and consequent relaxation and debility must be the result; as the common stimulant powers on which life depends cannot produce a sufficient effect upon the excitability to impart to the body that tone which is compatible with health. When, on the other hand, the stimulus of heat is much diminished, or when cold is applied to the body, the excitability must accumulate, or become more susceptible of the action of external powers. It is not often, however, that ill consequences result from this condition of the system, unless the exciting powers be improperly or too quickly applied: as we can bear a considerable diminution of heat with impunity, and the action of cold, unless it be excessive, never produces any bad effects upon people in health.

It has been generally supposed that catarrh, or a cold, is contracted in consequence of exposure to cold air; but it is now ascertained that the immediate cause of that inflammatory affection of the mucous membrane of the nose, fauces and bronchiæ, which always attend a catarrh, is not to be ascribed to exposure to cold air after being heated, but precisely the reverse of this takes place. It is not until we approach a heated atmosphere after coming from a cold one, that we experience the symptoms of having taken cold. The cold air drawn into the lungs by every breath, diminishes the heat of those parts, the excitability accumulates, and they become more liable to be affected by the succeeding heat. While we continue in the cold air, we are not sensible of any ill effects, but on coming into a warm room we soon experience the operation of those symptoms which evince our having taken a cold, and the more we try to obviate these symptoms by the application of external heat, the more are they increased and aggravated.* Such is the effect of violent action of heat on the accumulated excitability. "After cold," says a late eminent physician,

* This fact has so frequently been verified by my personal experience as to have dissipated every doubt on the subject.

"the sudden application of heat must produce the violent action which constitutes inflammation." "The symptoms are ascribed to the cold, and are the effects of an inflammation of the schneiderian membrane, which lines the nostrils, but it is the heat, which is the immediate cause. We do not feel that we have taken cold, till we are exposed to the action of heat; as when we come into a warm room, or in a warm bed, after exposure to a cold atmosphere; and similar consequences are known to follow the application of heat to frozen limbs, viz. inflammation and mortification of the parts."* It is a dangerous practice for persons when returning from an excessive cold atmosphere, to approach a fire without first waiting for the accumulated excitability to be gradually and moderately exhausted by the gentle action of heat; and to drink warm or strong liquors while the body is thus chilled with cold, is still more hazardous.† When persons have their hands and feet exposed to intense cold, by which the excitability of those parts is much accumulated, they will obtain the most effectual relief by putting them into cold water, or by rubbing them with snow until the morbid excitability be gradually exhausted.

It is an erroneous idea, that people should cool themselves before going from a warm room into the open air, they should, on the contrary, accumulate a large portion of heat, and then secure their bodies by warm clothing, and the use of active exercise, and being thus prepared they may pass through the most intense cold with perfect impunity. But after being exposed to cold air till the natural warmth begins to decline, they can never return into a warm room or near a fire, without a risk of dangerous consequences. Let it therefore be constantly observed as a rule, that when the body or limbs are affected with intense cold, the only safe method is to produce the natural feeling and warmth by means of gradual heat.

The fact seems to be fully established, that in proportion to the increased degree of heat of the body, is the safety with which cold may be applied; provided it be applied freely and before the heat begins to decline. Of this we have a sufficient proof in the

---

* Warren on Mercurial Practice.

† "The mistaken idea of the necessity of 'taking something warm to keep the cold out,' occasions more colds, perhaps, than all the other exciting causes of the complaint united."

practice of the Russian inhabitants, who first bathe in water heated to as high a degree as the body can bear, and immediately after roll themselves, in snow, and this with perfect impunity.

Few of the refinements of modern luxury and fashion, are more prejudicial to health by rendering the body susceptible of cold, than the living in small close rooms heated to excess by fires or stoves. Another practice no less injurious, is to sleep in heated apartments upon soft beds artificially warmed, and under a load of bed clothes. It is far more salutary for the strong and healthy, to go into a cold bed, regarding it as a necessary rule however, to acquire a moderate degree of warmth immediately previous to retiring to rest, for if we get into bed cold and chilly we shall remain so the greater part of the night.

From the foregoing view of the subject, it is obvious that nothing so much contributes to enervate the powers of the human frame, as an excess of external heat, which debilitates by its perpetual stimulus, until the system becomes extremely sensible to the slightest variation of temperature of the air. It is of primary importance, therefore, that young persons be gradually habituated to bear the impressions of cold, and induce that enviable state of hardiness that will enable them to brave with impunity the vicissitudes of the atmosphere of our climate. And in order to obviate the most frequent causes of catarrh, which is so prevalent among us, we should accommodate our dress to the season and personal feeling; and when changes from cold to heat, or the contrary, are unavoidable, carefully guard against the transition being sudden and immediate.

CHAPTER II.

EXERCISE.

The position is universally established, that exercise should be ranked as among the most powerful agents which we can employ for the preservation of life and health. The ancients, as well as the moderns, have attributed great utility in pursuing a proper course of exercise, and even considered it the sole instrument in the cure of some diseases, especially those of the glandular and nervous systems. Galen was a zealous advocate for the various kinds of exercise, as a curative remedy, and the great Sydenham was so exceedingly sanguine in his opinion of its salutary effects, in the prevention and cure of numerous diseases, that he was led to give a latitude to it which can scarcely be admitted. Indeed, the beneficial effects to be derived from exercise properly performed, in all chronic diseases, are almost inconceivable. It strengthens the solid parts, and promotes the circulation of the fluids, beyond any thing else within the compass of nature. It increases perspiration, and prevents many of those diseases which cannot be cured, and may remove others where medicine proves ineffectual.

"A common source of consumption in our females," says the excellent writer quoted in the last chapter, "is want of exercise; there is perhaps no place, in which the common habits of improved social life are adopted, in which this sex are less attentive to that most essential requisite for the preservation of health, than in this (Boston).

"No exercise is equally salutary with that of walking. This gives action to the muscles of the limbs, whence the circulation, from the distance, of the vessels from the heart, is apt to be languid. It throws the blood forcibly forward towards the lungs, and thereby affords an opportunity for the mass to be exposed in larger quantities to the action of the air, by which alone it is rendered fit for circulation. This oxygenation of the blood by air endues it with the property, by which it is enabled to excite its vessels into

stronger action, and by that means to give strength and vigour to the whole system.

"Who does not notice, that our sedentary females are put out of breath by the smallest degree of exertion, beyond what they have been accustomed to? That the lungs have become so irritable for want of the stimulus, which exercise exerts upon them, as to be thrown into a kind of convulsive cough from the most trifling acceleration of the blood in its passage through them.

"Whereas, in the females of our country towns, who have constantly habituated themselves to walking, riding, and the greatest variety of domestic labours, may be noticed the large play of lungs in quick walking; a deep and full respiration, with all the attendant advantages of a sufficiently complete oxygenation of the blood.

"Nor are these observations inapplicable to the other sex. There is not one man in a hundred, that exercises sufficiently in mercantile cities; because not one in a hundred, from the nature of his occupation, is obliged to do it; and not one in two hundred will do it from principle."* The more active kinds of exercise, as walking, running, leaping, riding, swimming, fencing, &c. are the most suitable to youth and those of a middle age, and particularly to the corpulent. The passive kind, as riding in a carriage, sailing, swinging, &c. are best adapted to infants, to the aged, and to the delicate and weak. Walking gives the most general action to the muscles of the body and limbs, but for valetudinarians, and those who have weak bowels, or are consumptive, riding on horseback is preferable. It is almost incredible how much the constitution may be strengthened by this exercise, when continued for a considerable time, especially when on long journies, a perpetual change of air, and of scenes and objects, combine their advantages. Invalids, who have recourse to this exercise, should be accompanied by a cheerful companion, and they should not commence a journey for health, until they have tried their strength in short rides; nor discontinue the exercise abruptly, but gradually. They should divest the mind of all deep reflection, and gratify the sight with the prospect of the various objects which present themselves to view. The unwholesome air of large towns, the damps of

* Warren on Mercurial Practice.

marshes, and the morning and evening dews, ought to be particularly avoided by invalids when travelling for health. It should be remarked, that exercise, immediately after eating, is frequently productive of hurtful consequences, particularly in those of nervous and irritable constitutions; and fatiguing exercise should never be practised till the process of digestion is completed, which generally requires three or four hours after eating.

The exercise of riding in a carriage is conducive to health, but the greater the motion allowed to the body of the carriage, the more beneficial will be its effects, provided too much fatigue be avoided.

Dancing is a salutary exercise, especially in the winter, if not too violent or carried to excess; but when performed in the warm atmosphere of a crowded assembly, and especially, if at the same time, liquors of a heating nature be taken, or cooling drinks during a profuse perspiration, very serious consequences may be apprehended from such excesses. The laborious kinds of exercise attending agricultural employments, as hoeing, digging, raking, chopping, &c. have sometimes been found to produce advantageous effects. For children, skipping the rope is a salutary kind of exercise.

Among the passive kinds of exercise, sailing is the most efficacious. The giddiness of the head, nausea and vomiting, which is often experienced by those who are unaccustomed to the motion of a vessel, are productive of very salutary effects. Consumptive patients, if they have recourse to sailing at an early stage, and also the nervous and hypochondriac, will often derive from this kind of exercise the most essential benefit. But to those who are subject to spitting of blood, sailing is not to be recommended. Reading or speaking aloud is a salutary kind of exercise; but to exert the voice vehemently immediately after a meal, is injurious both to the lungs and the organs of digestion. The action of singing shakes the lungs and the contents of the abdomen, which promotes, in a remarkable degree, the circulation of the blood through those organs. But the reverse of this takes place with those who are much in the employment of wind instruments, as they introduce a large quantity of air into the lungs, and keep that organ too long in a state of distention. Hence persons of weak lungs, who play much upon the flute or other wind instruments, are frequently afflicted with spitting of blood, cough, shortness of breath, and pulmonary consumption.

There is a species of exercise yet to be noticed, as both gentle and useful, and in the power of every one, but which is too much neglected. I mean friction of the body by a piece of flannel or coarse linen cloth. Friction is a kind of exercise that remarkably contributes to the health of sedentary persons; it excites and kindles the natural warmth; promotes perspiration, strengthens the fibres, and tends to dissipate stagnant humours. The operation is particularly beneficial to the nervous, debilitated and studious. The parts to be particularly subjected to this operation, are chiefly the abdomen, the spine or back bone, and the arms and legs. Even in a state of health this kind of exercise will be found exceedingly useful, but in many chronic complaints it is an excellent remedy, which cannot be too much recommended as a useful substitute for other exercises, which cannot be resorted to at all times. It should be performed every morning and evening, when the stomach and bowels are empty, and continued for twenty minutes at a time. In rubbing the abdomen, the operation ought to be performed in a circular direction, as being most favourable to the course of the intestines, and their natural action. It is proper here to remark, that many ill consequences may result from certain unnatural positions of the body, which sedentary artificers and others are accustomed to practice. A bending posture of the body, while sitting with the head reclined forwards, tends greatly to check the circulation of the fluids in the abdomen; and the head itself suffers by such inconvenient position. It is likewise injurious to the lungs, for when this organ is compressed, the air cannot have free access in all its parts so as to expand them properly; the vital motions are thereby impeded, and the health, of course, must be greatly impaired. Those persons, therefore, who spend much of their time in writing, should employ high tables or desks, and raised seats, which will allow the body a more erect position. Artificers whose lower limbs are constantly confined, as shoe-makers, and tailors, ought to sit as erect as the nature of their employment will permit, and should change their position, and make use of active exercise as frequently as possible. Although bodily exercise is an essential requisite for the preservation of health, this should not exceed the bounds of moderation; as too violent exercise, and a total want of it, are attended with equal disadvantages.

CHAPTER III.

OF FOOD AND DRINK.

It may with much propriety be observed, that on the quantity and quality of the food, and consequently the nourishment of the body, both health and life are dependent. Habitual excess in eating is no less detrimental to the constitution than an intemperate use of spirituous liquors, and perhaps the number of victims to the former, is not much exceeded by those of the latter vice.

With respect to the quantity of food proper for every individual, no precise rule can be prescribed or observed; as the various circumstances of age, sex, strength, size, and habit, are to be consulted. There is, however, one golden rule which will apply to every person, and is never to be disregarded; it is, to keep within the bounds of satiety, and cease eating when the first cravings of appetite are satisfied. Such as transgress this rule, and indulge in excess and gluttony, lay a foundation for numerous diseases, a broken constitution, and premature old age.

The quality of our food merits very particular consideration. Vegetable productions may be rendered unwholesome by unfavourable seasons, which prevent the ripening of grain, or it may afterwards suffer damage by the weather, or be spoiled by too long keeping; in either case, such food is rendered entirely unfit for the nourishment of the body, and is often productive of misery and even the mortality of mankind.

There are various causes also, by which animal food may be reduced to such unsound condition, as to be incapable of affording wholesome nourishment. All animal substances have a constant tendency to putrefaction, and this disposition to corruption is always increased by the blood and juices being mixed in with the flesh. Such cattle, therefore, as die of themselves, or by accident, ought never to be eaten. The flesh of cattle fattened in the stall, as they are excluded from fresh air and exerscise, is destitute of the fine flavour and nourishing qualities of wholesome meat. Animals designed

for slaughter are often rendered unwholesome by being overheated in travelling, and if butchered while in such a state of fever, the blood will be so intimately mixed in with the meat, that it cannot be separated: consequently it will be rendered unwholesome. There is a vile practice among some butchers, of filling the cellular membrane with air, or what is called *blowing* meat, to give it the appearance of being fat. This abominable custom not only renders the meat unfit for keeping, but communicates to it a taint so loathsome and disgusting, as to shock every person who reflects but a moment upon the circumstance. Who can know but the offensive breath thus blown into the meat carries with it the effluvia of diseased lungs? This horrid custom ought to receive the severest animadversion whenever it can be detected.

Considerable attention is due to the kind of food in particular constitutions and circumstances. It was undoubtedly intended by providence, that the subsistence of our species should consist of both animal and vegetable food; and a mixture of the two, where neither of them disagrees with the constitution, may be deemed the most proper. Animal food in general is more nourishing than vegetables; and when it is not salted, nor hardened by smoking, is likewise more easy of digestion. On this account, it generally agrees best with delicate and weak constitutions, and such whose stomachs are much liable to acidity. But to eat of several kinds of meat at a meal, is certainly injurious to health; both as a variety of dishes may invite to excess, and as a mixture of meats, very different in their texture, must interrupt the process of digestion, and the formation of proper chyle for the nourishment of the body. It is more conformable to nature to eat of one dish only, and this is doubtless the means of procuring the most healthy fluids.

The quality of meat undergoes considerable change by the particular mode of cookery. By boiling meat, it is deprived of much of its nourishing juice; the broth contains the most gelatinous and nourishing part of it, but if taken in this form it tends to relax the stomach, and thereby retard the process of digestion. When meat is prepared by roasting or broiling, it retains its natural juices, and probably yields more nourishment than the same quantity of boiled meat. Stewing in a close vessel is well calculated to preserve the more substantial parts of animal food, as the juices are neither extracted by water, nor made to evaporate by heat.

The luxurious arts of cookery contribute in no small degree to the mischievous effects which we frequently experience from our food. All condiments and articles of high seasoning have a pernicious tendency, by tempting to excess, and exciting the digestive powers to an undue action. Simplicity in food, both in kind and preparation, is most conformable to the dictates of nature, and the pampering luxuries of modern times have been the bane of thousands. The true and natural appetite alone should be the guide of every individual. The artificial appetite, or that excited by stimulating liquors and condiments, ought to be very cautiously indulged: and that created by the habit of taking food at certain hours, cannot afford the true indication that nature requires a supply, and is not therefore to be satisfied beyond a moderate extent, as voraciousness will increase with indulgence, until actual intemperance become established. A simple rule, which every person ought to observe, is, to eat slow, that the food may have sufficient time to be duly masticated, or chewed in the mouth; to swallow food too quickly, and before it is perfectly chewed, is, to say the least of it, very improper, and sometimes dangerous. The quantity of food taken should be in some measure regulated by the different seasons; thus, in summer, as heat in general relaxes the body and dissipates the fluids, the stomach cannot digest the same quantity of food as in winter. The quantity of food, however, in all seasons, ought to be proportioned to the degree of personal exercise and the indications of a healthy appetite. A deficiency of aliment weakens the body, and in young persons, retards their growth, and impairs the constitution; while intemperance in eating overpowers and injures the organs of digestion, crowds the vessels with gross humours, and disposes to corpulency and inflammatory diseases.

After long fasting, and a person has suffered much from extreme hunger, the excitability of the stomach accumulates, and the organ is rendered extremely susceptible of its accustomed stimulus, insomuch that a cup of broth has been known to intoxicate equally with two or three bottles of wine in common circumstances. Hence the great hazard in giving to such persons large quantities of food at once, a full meal would undoubtedly prove fatal. The only safe and proper method in such case is, to administer liquid nourishment in small quantities, and conduct as with a patient in a putrid or nervous fever, abstaining from animal food of every kind until the

stomach be gradually restored to its natural and healthy state. There is likewise considerable danger in sudden changes of diet, particularly the transition from a rich and full, to one that is low and sparing. When, therefore, a change becomes expedient, it ought always to be gradually introduced. The term wholesome as applied to food is to be understood, in a relative sense, and the application, in each individual instance, must be determined by experience and observation.

With respect to the choice of aliment as adapted to particular constitutions, those who abound with blood, and such as are disposed to become fat, should be very sparing in the use of highly nourishing food, rich wines, and malt liquors, and carefully avoid all excess, and take much exercise. Their diet ought to exist chiefly of the vegetable kind, and their drink to be water, or small beer. People whose solids are weak and relaxed, should avoid all food of hard digestion, but use such as is of a nutritious nature. Persons who are much troubled with an acidity of the stomach, should make the greater part of their diet consist of animal food.

Milk is an article of food which cannot be too highly commended. It is intermediate between animal and vegetable substances, easy of digestion, and affording a mild and bland nutriment, calculated to obtund the acrimony of the fluids and purify the blood. In weak and consumptive habits, it is incomparably the most eligible of all nutritive substances, provided it does not disagree with the stomach.

The age, constitution, and manner of life, are circumstances which merit attention in the choice of proper diet; and sedentary people should live more sparingly than those who are accustomed to much bodily labour. The diet best adapted under circumstances of disease, will be an object of attention when treating of diseases particularly.

The diet should not only be such as is best adapted to the particular tendency of different constitutions, but it ought not to be too uniform, at least for any considerable time. When the stomach has been long habituated to the most delicate and tender kind of food, it becomes incapable of digesting any thing stronger, among the great variety which nature has provided for our support. Food ought to be taken at regular periods, for long fasting is injurious in every stage of life; it vitiates the fluids, and prevents the growth of the body. Nature requires frequent supplies of fresh nourishment to

obviate a constant tendency of the humours to become acrimonious. Long fasting is apt also to occasion wind in the stomach and bowels, and sometimes even giddiness and faintness, especially in those who are weak and delicate. It is proper here to caution against the practice of eating food while hot, as nothing can be more destructive to the teeth, nor more injurious to the muscular tone of the stomach.

The practice of eating heavy suppers just before going to rest, is exceedingly pernicious, as the digestive powers are in a degree diminished during sleep; and in a horizontal posture the stomach presses upon a part of the intestines, and the blood is consequently impelled to the head which may prove of dangerous tendency. The custom of taking a short sleep after dinner, may with propriety be allowed to the aged and delicate; the indulgence, however, should be confined to a repose of a few minutes in a reclining posture.

We come now to notice the articles of drink, which is an essential part of our aliment, and of indispensable use to the digestion of our food. Among the great variety of liquids, water is the most universally employed, and when perfectly pure it is the most salutary and natural beverage of mankind. Its salubrity depends on the peculiar properties which it possesses. Some waters are strongly impregnated with animal, vegetable, or mineral particles, of a nature injurious to the constitution; and such impregnation may be known by the sensible qualities of the water. The best water is that which is pure, light, and without any particular colour, taste, or smell. Fermented liquors, if made very strong, and drunk in large quantities, inflame the blood, hurt digestion, and dispose to a variety of diseases. If too weak, they produce flatulence; or if become stale, they turn sour on the stomach and injure digestion. Strong beer is very nourishing, and may be employed with advantage as a medicine in emaciated habits. Beer made of a great proportion of hops, and a small quantity of malt, is a good beverage, and well calculated to allay thirst. Cider, when of a proper age, and well refined and pure, may be considered as a pleasant and salutary beverage, and calculated to obviate a putrid tendency in the humours. Wine, moderately used, increases the circulation of the blood, promotes the secretions and excretions, and invigorates all the functions of the body. It is, however, only a stimulant, and not a permanently strengthening cordial; for most wine drinkers

who indulge in excess, die of relaxation and debility. To the phlegmatic, to the aged, and to those who are disposed to flatulency, wine is highly beneficial, if used with prudence and moderation. Plethoric young men, and such as have weak stomachs and lungs, should not accustom themselves to the use of wine. It is believed that three or four glasses of wine, or one of spirits much diluted with water, daily, is as much as can be taken by most men without producing more or less injury to the system. No person, in the opinion of Dr. Trotter, if in good health, can need wine till he be forty. He may then begin with two glasses a day; at fifty he may add two more; and at sixty he may go to the length of six, but not to exceed that quantity, though he should live to an hundred. It is to be remarked that we speak of pure wine in its unadulterated state; those once of genuine quality being too often shamefully adulterated with poisonous ingredients, or changed in their nature by various mixtures.

Ardent spirits are more stimulating, but less permanent in their effects than even wine; instead of promoting digestion of food, they actually tend to retard it, and render strong food taken into the stomach still more indigestible. It is therefore evident, that neither wine nor ardent spirits are proper to be employed as drinks with our daily food. Vinegar is a vegetable production, possessing salubrious qualities; it is an excellent antiseptic, and, when diluted with water, and some ginger and molasses added, forms a wholesome and useful drink in most constitutions, in warm climates and seasons. All other vegetable acids, as the juice of oranges, lemons, &c. possess similar properties, and are both agreeable and useful. Our drink, of whatever nature, ought, as well as food, to be taken in a just and moderate quantity. Were we to be governed by the dictates of nature, we ought to drink only when solicited by thirst, and he who is accustomed to drink water only, will seldom be in danger of transgressing the proper measure, if he drinks as often as the calls of nature demand.*

The following general account of the qualities of the different kinds of animal and vegetable food, is taken from Thompson's Family Physician.

"*Beef.* When this is the flesh of a bullock of middle age, it affords good and strong nourishment, and is peculiarly well adapt-

* See chapter on Intemperance.

ed to those who labour, or take much exercise. It will often sit easy upon stomachs that can digest no other kind of food; and its fat is almost as easily digested as that of *veal*.

"*Veal* is a proper food for persons recovering from an indisposition, and may even be given to febrile patients in a very weak state, but it affords less nourishment than the flesh of the same animal in a state of maturity. The fat of it is lighter than that of any other animal, and shows the least disposition to putrescency. *Veal* is a very suitable food in costive habits; but of all meat it is the least calculated for removing an acid from the stomach.

"*Mutton*, from the age of four to six years, and fed on dry pasture, is an excellent meat. It is of a middle kind, between the firmness of beef and the tenderness of veal. The lean part of mutton, however, is the most nourishing, and conducive to health; the fat being hard of digestion. The head of the sheep, especially when divested of the skin, is very tender; and the feet, on account of the jelly they contain, highly nutritive.

"*Lamb* is not so nourishing as mutton; but it is light, and extremely suitable to delicate stomachs.

"*House-lamb*, though much esteemed by many, possesses the bad qualities common to the flesh of all animals reared in an unnatural way.

"*Pork* affords rich and substantial nourishment; and its juices are wholesome when properly fed, and when the animal enjoys pure air and exercise. But the flesh of hogs reared in towns, is both hard of digestion and unwholesome. Pork is particularly improper for those who are liable to any foulness of the skin. It is almost proverbial, that a dram is good for promoting its digestion; but this is an erroneous notion: for, though a dram may give a momentary stimulus to the coats of the stomach, it tends to harden the flesh, and of course to make it more indigestible.

"*Smoked-hams* are a strong kind of meat, and rather fit for a relish than for diet. It is the quality of all salted meat, that the fibres become rigid, and therefore more difficult of digestion; and when to this is added smoking, the heat of the chimney occasions the salt to concentrate, and the fat between the muscles to become rancid.

"*Bacon* is also of an indigestible quality, and is apt to turn rancid on weak stomachs.

"The flesh of *Goats* is hard and indigestible; but that of kids is tender, as well as delicious, and affords good nourishment.

"*Venison*, or the flesh of *deer*, and that of *hares*, is of a nourishing quality, but is liable to one inconvenience; which is, that though much disposed to putrescency of itself, it must be kept for a little time before it becomes tender.

"The *blood* of animals is used as aliment by the common people; but they could not long subsist upon it unless mixed with oatmeal, &c. for it is not soluble alone by the digestive powers of the human stomach, and therefore cannot prove nourishing.

"*Milk* is of very different consistence in different animals; but that of cows being the kind used in diet, is at present the object of our attention. Milk, where it agrees with the stomach, affords excellent nourishment for those who are weak, and cannot digest other aliments. Though an animal production, it does not readily become putrid, as, being possessed of the properties of vegetable aliment; but it is apt to become sour on the stomach, and thence to produce flatulence, the heart-burn, or gripes, and in some constitutions, a looseness. The best milk is from a cow at three or four years of age, about two months after producing a calf. It is lighter, but more watery, than the milk of sheep and goats; while on the other hand, it is more thick and heavy than the milk of asses and mares, which are the next in consistence to human milk.

"On account of the acid which is generated after digestion, milk coagulates in all stomachs; but the caseous or cheesy part is again dissolved by the digestive juices, and rendered fit for the purpose of nutrition. It is, however, improper to eat acid substances with milk, as these would tend to prevent the due digestion of it.

"*Cream* is very nourishing, but, on account of its fatness, is difficult to be digested in weak stomachs. Violent exercise, after eating it, will in a little time convert it into butter.

"Some writers inveigh against the use of *Butter* as universally pernicious; but they might with equal reason condemn all vegetable oils, which form a considerable part of diet in the southern climates, and seem to have been beneficently intended by nature for that purpose. Butter, like every other oily substance, has doubtless a relaxing quality, and, if long retained in the stomach, is liable to become rancid; but if eaten in moderation, it will not

produce those effects in any hurtful degree. It is, however, improper in bilious constitutions. The worst consequence produced by butter, when eaten with bread, is, that it obstructs the discharge of the saliva in the act of mastication or chewing; by which means the food is not so readily digested. To obviate this effect, it would be a commendable practice at breakfast, first to eat some dry bread, and chew it well, till the salivary glands were exhausted, and afterwards to eat it with butter. By these means such a quantity of saliva might be carried into the stomach as would be sufficient for the purpose of digestion.

"*Cheese* is likewise reprobated by many as extremely unwholesome. It is doubtless not easy of digestion; and when eaten in a great quantity, may load the stomach; but if taken sparingly, its tenacity may be dissolved by the digestive juices, and it may yield a wholesome, though not very nourishing chyle. Toasted cheese is agreeable to most palates, but is rendered more indigestible by that process.

"The flesh of *Birds* differs in quality according to the food on which they live. Such as feed upon grain and berries, afford, in general, good nourishment, if we except *geese* and *ducks*, which are hard of digestion. A young *hen*, or chicken, is tender and delicate food, and extremely well adapted where the digestive powers are weak. But of all tame fowls, the *capon* is the most nutricious.

"*Turkeys*, as well as Guinea or India fowls, afford a substantial aliment, but are not so easy of digestion as the common domestic fowls. In all birds, those parts are the most firm which are most exercised; in the small birds, therefore, the wings, and in the larger kinds, the legs, are commonly the most difficult of digestion.

"The flesh of *wild birds*, in general, though more easily digested, is less nourishing than that of quadrupeds, as being more dry, on account of their almost constant exercise. Those birds are not wholesome which subsist upon worms, insects, and fishes.

"*Eggs.* In the last class of terrestrial animal food, we may rank the eggs of birds, which are a simple and wholesome aliment. Those of the turkey are superior in all the qualifications of food. The white of eggs is dissolved in a warm temperature, but by much heat it is rendered tough and hard. The yolk contains much oil, and is highly nourishing, but has a strong tendency to putrefaction; on which account eggs are improper for people of

weak stomachs, especially when they are not quite fresh. Eggs, hard boiled or fried, are difficult of digestion, and are rendered still more indigestible by the addition of butter. All eggs require a sufficient quantity of salt, to promote their solution in the stomach.

"*Fish*, though some of them be light, and easy of digestion, afford less nourishment than vegetables or the flesh of quadrupeds, and are, of all the animal tribes, the most disposed to putrefaction. Salt water fish are, in general, the best; but, when salted, though less disposed to putrescency, they become more difficult of digestion. Whitings and flounders are the most easily digested. Acid sauces and pickles, by resisting putrefaction, are a proper addition to fish, both as they retard putrescency, and correct the relaxing tendency of butter, so generally used with this kind of aliment.

"*Oysters* are eaten both raw and dressed; but in the former state they are preferable: because heat dissipates considerably their nutritious parts, as well as the salt water, which promotes their digestion in the stomach: if not eaten very sparingly, they generally prove laxative.

"*Muscles* are far inferior to oysters, both in point of digestion and nutriment. Sea muscles are by some supposed to be of a poisonous nature; but though this opinion is not much countenanced by experience, the safest way is to eat them with vinegar, or some other vegetable acid.

"*Bread.* At the head of the vegetable class stands bread, that article of diet which, from general use, has received the name of *the staff of life.* Wheat is the grain chiefly used for the purpose in this country, and is among the most nutritive of all the farinaceous kinds, as it contains a great deal of mucilage. Bread is very properly eaten with animal food, to correct the disposition to putrescency; but is most expedient with such articles in diet as contain much nourishment in a small bulk, because it then serves to give the stomach a proper degree of expansion. But as it produces a slimy chyle, and disposes to costiveness, it ought not to be eaten in a large quantity. To render bread easy of digestion, it ought to be well fermented and baked; and it never should be used till it has stood twenty-four hours after being taken out of the oven, otherwise it is apt to occasion various complaints in those who have weak bowels; such as flatulence, the heart-burn, watchfulness, and the like. The custom of eating butter with bread hot from the oven, is compatible only with strong digestive powers.

"*Pastry*, especially when hot, has all the disadvantages of hot bread and butter; and even buttered toast, though the bread be stale, is scarcely inferior in its effects on a weak stomach. Dry toast, with butter, is by far the most wholesome breakfast. Brown wheaten bread, in which there is a good deal of rye, though not so nourishing as that made of fine flour, is both palatable and wholesome, but apt to become sour on weak stomachs, and to produce all the effects of acidity.

"*Oats*, when deprived of the husk, and particularly *barley*, when properly prepared, are each of them softening, and afford wholesome and cooling nourishment. *Rice*, likewise, contains a nutritious mucilage, and is less used in this country than it deserves, both on account of its wholesomeness and economical utility. The notion of its being hurtful to the sight, is a vulgar error. In some constitutions, it tends to make them costive; but this seems to be owing chiefly to flatulence, and may be corrected by the addition of some spice, such as caraway, anise seed, and the like.

"*Potatoes* are an agreeable and wholesome food, and yield as much nourishment as any of the roots used in diet. The farinaceous or mealy kind is in general the most easy of digestion; and they are much improved by being roasted.

"*Green pease*, and *Turkey beans*, boiled in their fresh state, are both agreeable to the taste, and wholesome; being neither near so flatulent, nor difficult of digestion, as in their ripe state; in which they resemble the other leguminous vegetables. *French beans* possess much the same qualities; but yield a more watery juice, and have a greater disposition to produce flatulence. The leguminous vegetables, in general, ought to be eaten with some spice.

"*Salads*, being eaten raw, require good digestive powers, especially those of the cooling kind; and the addition of oil and vinegar, though qualified with mustard, hardly renders the free use of them consistent with a weak stomach.

"*Spinage* affords a soft lubricating aliment, but contains little nourishment. In weak stomachs, it is apt to produce acidity, and frequently a looseness. To obviate these effects, it ought always to be well beaten, and but little butter mixed with it.

"*Asparagus* is a nourishing article in diet, and promotes urine; but, in common with the vegetable class, disposes a little to flatulence.

"*Artichokes* resemble asparagus in their qualities, but seem to be more nutritive, and less diuretic.

"*White Cabbage* is one of the most conspicuous plants in the garden. It does not afford much nourishment, but is an agreeable addition to animal food, and not quite so flatulent as the common greens. It is likewise diuretic, and somewhat laxative. Cabbage has a stronger tendency to putrefaction than most other vegetable substances; and, during its putrefying state, sends forth an offensive smell, much resembling that of putrefying animal bodies. So far, however, from promoting a putrid disposition in the human body, it is, on the contrary, a wholesome aliment in the true putrid scurvy.

"*Turnips* are a nutricious article of vegetable food, but not very easy of digestion, and are flatulent. This effect is in a great measure obviated by pressing the water out of them before they are eaten.

"*Carrots* contain a considerable quantity of nutritious juice, but are among the most flatulent of vegetable productions.

"*Parsnips* are more nourishing and less flatulent than carrots, which they also exceed in the sweetness of their mucilage. By boiling them in two different waters, they are rendered less flatulent, but their other qualities are thereby diminished in proportion.

"*Parsley* is of a stimulating and aromatic nature, well calculated to make agreeable sauces. It is also a gentle diuretic, but preferable in all its qualities when boiled.

"*Celery* affords a root both wholesome and fragrant, but is difficult of digestion in its raw state. It gives an agreeable taste to soups, as well as renders them diuretic.

"*Onions*, *garlic*, and *shallot*, are all of a stimulating nature, by which they assist digestion, dissolve slimy humours, and expel flatulency. They are, however, most suitable to persons of a cold and phlegmatic constitution.

"*Radishes* of all kinds, particularly the horse-radish, agree with the three preceding articles in powerfully dissolving slimy humours. They excite the discharge of air lodged in the intestines; but this proceeds from the expulsion of the air contained in themselves.

"*Apples* are a wholesome vegetable aliment, and in many cases medicinal, particularly in diseases of the breast, and complaints arising from phlegm. But, in general, they agree best with the stomach, when eaten either roasted or boiled. The more aromatic kinds of apples are the fittest for eating raw.

"*Pears* resemble much in their effects the sweet kind of apples, but have more of a laxative quality, and a greater tendency to flatulence.

"*Cherries* are, in general, a wholesome fruit, when they agree with the stomach, and they are beneficial in many diseases, especially those of the putrid kind.

"*Plums* are nourishing, and have, besides, an attenuating, as well as a laxative, quality; but are apt to produce flatulence. If eaten fresh, and before they are quite ripe, especially in large quantities, they occasion colics and other complaints of the bowels.

"*Peaches* are not of a very nourishing quality, but they abound in juice, and are serviceable in bilious complaints,

"*Apricots* are more pulpy than peaches, but are apt to ferment, and produce acidities in weak stomachs. Where they do not disagree, they are cooling, and tend likewise to correct a disposition to putrescency.

"*Gooseberries*, as well as *currants*, when ripe, are similar in their qualities to *cherries*, and, when used in a green state, they are agreeably cooling.

"*Strawberries* are an agreeable, cooling aliment, and are accounted good against the gravel.

"*Cucumbers* are cooling, and agreeable to the palate in hot weather; but to prevent them from proving hurtful to the stomach, the juice ought to be squeezed out after they are sliced, and vinegar, pepper, and salt, afterwards added.

"*Tea.* By some, the use of this exotic is condemned in terms the most vehement and unqualified, while others have either asserted its innocence, or gone so far as to ascribe to it salubrious, and even extraordinary virtues. The truth seems to lie between these extremes: there is, however, an essential difference in the effects of green tea and of black, or bohea; the former of which is much more apt to affect the nerves of the stomach than the latter, especially when drunk without cream, and likewise without bread and butter. That when taken in a large quantity, or at a later hour than usual, it often produces watchfulness, is a point which

cannot be denied; but if used in moderation, and accompanied with the addition just now mentioned, it does not sensibly discover any hurtful effects, but greatly relieves an oppression of the stomach, and abates a pain of the head. It ought always to be made of a moderate degree of strength; for if too weak, it certainly relaxes the stomach. As it has an astringent taste, which seems not very consistent with a relaxing power, there is ground for ascribing this effect, not so much to the herb itself, as to the hot water, which not being impregnated with a sufficient quantity of tea to correct its own emollient tendency, produces a relaxation unjustly imputed to some noxious quality of the plant. But tea, like every other commodity, is liable to damage, and when this happens, it may produce effects not necessarily connected with its original qualities.

"*Coffee.* It is allowed that coffee promotes digestion, and exhilarates the animal spirits; besides which, various other qualities are ascribed to it, such as dispelling flatulency, removing dizziness of the head, attenuating viscid humours, increasing the circulation of the blood, and consequently perspiration; but if drunk too strong, it affects the nerves, occasions watchfulness, and tremor of the hands; though in some phlegmatic constitutions, it is apt to produce sleep. Indeed, it is to persons of that habit that coffee is well accommodated: for to people of a thin and dry habit of body, it seems to be injurious. Turkey coffee is greatly preferable in flavour to that of the West-Indies. Drunk only in the quantity of one dish after dinner, to promote digestion, it answers best without either sugar or milk: but if taken at other times, it should have both, or in place of the latter, rather cream, which not only improves the beverage, but tends to mitigate the effect of coffee upon the nerves.

"*Chocolate* is a nutritive and wholesome composition, if taken in small quantity, and not repeated too often; but is generally hurtful to the stomach of those with whom a vegetable diet disagrees. By the addition of vanilla and other ingredients, it is made too heating, and so much affects particular constitutions, as to excite nervous symptoms, especially complaints of the head."

CHAPTER IV.

OF THE PASSIONS.*

"NOTWITHSTANDING the universal condemnation of the passions by the stoical sect of philosophers, they are a natural and necessary part of the human constitution, and were implanted in it by the great Creator for wise and useful purposes. Indeed, without them we could have no motive to action, the mind must become utterly torpid, and, there being no foundation for morality or religion, virtue and vice would be nothing more than indiscriminate and unintelligible terms. The passions are only prejudicial when allowed to exceed their proper bounds; and to preserve them within those limits, we are furnished, not only with reason and the light of nature, but likewise that of revelation.

"From the intimate, though mysterious, connection between the mind and body, they reciprocally affect each other, and thence the passions exert a powerful influence both in the production and cure of diseases. The two great sources of the passions respectively, are desire and aversion; those of the former class tending in general to excite, and the others to depress, the powers of the animal system. The chief passions which arise from desire, are joy, hope, and love; and the most eminent in the train of aversion are, fear, grief, and anger.

"Joy is a passion in which the mind feels a sudden and extraordinary pleasure; the eyes sparkle, a flood of animation overspreads the countenance, the action of the heart and arteries is increased, and the circulation of the blood becomes vigorous. Instances are not wanting where this passion, when unexpectedly excited and violent, has produced immediate death; but if moderate, and existing only in the form of cheerfulness, it has a beneficial effect in preserving health, as well as in the cure of diseases.

"Of all the passions, hope is the mildest: and, though it operates without any commotion of the mind or any visible symptom

* This chapter is taken verbatim from Thompson's Family Physician.

of the body, it has a most powerful influence on the health of one, and the serenity of the other: it contributes, indeed, so much to the welfare of both, that if it were extinguished, we could neither enjoy any pleasure in this life, nor any prospect of happiness in the life to come; but, by the beneficent will of Providence, it is the last of the passions that forsakes us.

"Love is one of the strongest passions with which the mind is affected, and has, at its commencement, a favourable influence on the functions of the body; but, being often in its progress attended with other passions, such as fear and jealousy, it is liable to become the source of infinite disquietude; no passion undermines the constitution so insidiously as this; for, while the whole soul is occupied with the thoughts of a pleasing attachment, both the mind and body become languid from the continuance of vehement desire; and should there arise any prospect, real or imaginary, of being frustrated in its pursuit, the person is agitated with all the horrors and pernicious effects of despair. Love, when violent, and unsuccessful, frequently produces a wasting of the flesh, called nervous consumption, which terminates in death.

"Fear has its origin in the apprehension of danger or evil, and is placed as it were a sentinel, for the purpose of self-preservation; it retards the motion of the blood, obstructs respiration, and when in a moderate degree, relaxes the body; but if it rise to the height of terror, it puts all the springs of life into disordered action, and produces the most violent efforts in every muscle of the body. By weakening the energy of the heart, this passion disposes greatly to infection during the prevalence of contagious diseases; in some instances it has produced palsy, loss of speech, epilepsy, and even madness.

"There is no passion more destructive than grief when it sinks deep into the mind: by enfeebling the whole nervous system, it depresses the motion of the heart, and retards the circulation of the blood with that of all the other fluids; it commonly debilitates both the stomach and bowels, producing indigestion, obstructions, obstinate watchfulness, and disposing to every disease that may arise from extreme relaxation; it preys upon the mind as well as the body, and is nourished by indulgence, to the utmost degree of excess: during the violence of its earlier period, it spurns at all the

consolations either of philosophy or religion; but if life can subsist till the passion be alleviated by time, and submit to the cheering influence of company, exercise, and amusement, there is a prospect of recovery; though grief, long continued, often gives a shock to the constitution, in a manner that nothing can retrieve.

"Anger is a passion suddenly excited, and which often no less suddenly subsides. Equally furious and ungovernable in its nature, it may justly be considered as a transient fit of madness. The face, for the most part, becomes red, the eyes sparkle with fury, an outrageous commotion is visible in the countenance, and pervades the whole body. The animal spirits flow with rapidity, the pulsation of the heart and arteries, and, with them, the motion of the blood, are sometimes so much increased as to occasion the bursting of vessels.* This passion being most frequent among persons of a choleric temperament, it is particularly hurtful to the liver and its ducts, which it seems to affect with spasmodic and irregular agitations, sometimes productive of the jaundice. But it operates likewise towards the production of fevers, inflammations, spitting of blood, apoplexy, and other disorders. As anger is liable to be spent by its own violence, it is commonly of short duration; but when existing in a more moderate degree, and combined with sadness or regret, it gives rise to fretting, which is extremely pernicious to the health. A person ought never to eat or drink immediately after a violent fit of anger; and those who are constitutionally exposed to its influence should make every effort to restrain such an odious ebullition of the temper. Some have supposed, that in a violent fit of anger, the saliva possesses a slightly poisonous quality, but perhaps this opinion is founded more on analogy and conjecture than on real and accurate observation.

"From the general view which has been taken of the principal passions, it appears that there are two of them which have a particular claim to the attention of the medical faculty. These are hope and fear. By encouraging the former, and obviating the disposition to the latter, the most important assistance may be given in the treatment of many diseases, not otherwise curable. In the

* An instance of this nature occurred at Providence not many years since. A gentleman, in a violent fit of anger, fell, and instantly expired, probably in consequence of bursting a blood-vesel of the heart.

whole compass of medicine, there is not a more enlivening and salutary cordial than the passion of hope, nor any which can be compared to it in point of permanent operation.

"It is natural to persons, who have any dangerous complaint, to entertain fear and anxiety with respect to its termination. Such a state of mind never fails to aggravate any disorder; and the physician ought to exert himself all in his power to counteract the effects of the passion; for nothing can prove effectual for removing the disease, if baneful despondency support it.

CHAPTER V.

OF SLEEP.

"Such is the general constitution of animal bodies, that, with all the aid of aliment, they cannot long subsist unless refreshed by the natural vissicitudes of waking and sleep. These periodical changes in the state of our existence are as necessary to health and life, as the alternate returns of day and night to the regularity of the solar system. In what proportion they ought to divide our time, is a question worthy of consideration; and for this purpose it is proper to ascertain the end for which mankind was created. Both reason and scripture assure us that we are placed here in a state of probation, to exercise our natural faculties according to the laws of morality; and, by improving ourselves in habits of virtue, to be rendered fit for the enjoyment of a nobler and eternal state of existence.

"Such being the case, it follows, that the proper cultivation of the mind ought always to be our principal object: and, as this duty can be performed only when awake, we may justly conclude that the smallest portion of our time should be devoted to the repose of the bed. In this, however, we are left entirely to be guided by our own discretion: but it happens fortunately, that the dictates of reason coincide with the best physical rules for the preservation of health. In most constitutions, six hours will be found a sufficient time for the indulgence of sleep; and, if protracted beyond eight, it proves rather injurious than beneficial; though with respect to children a greater latitude is allowed.

"The proper time for the periodical return of sleep, is pointed out by nature herself, when the light of the day gives place to night, and when those who have laboured from the morning stand in need of repose. I would not, however, be understood to fix the commencement of sleep precisely to the approach of darkness, since in winter, unless for those who intend to rise early, such a practice would lead to the prolongation of sleep beyond the period which has been mentioned as the most salutary; besides, that this would

interfere with the innocent gratifications of society, than which nothing is more agreeable, or more beneficial to health.

"To secure sound sleep, the best expedient is to take sufficient exercise in the open air, to eat no heavy supper, and to lie down in bed in perfect tranquillity of mind, and without the attention being fixed on any subject connected with abstruse inquiry. It ought likewise to be observed, that a person should not go to bed till an hour and a half after supper.

"It is a general opinion that sleep is most refreshing in the fore part of the night: but perhaps this notion arose originally from a presumption, that the person who goes to bed at a moderate hour will of course rise sooner in the morning. It is certain, however, that the hour of going to bed ought not to be so late as to protract the time of waking till the morning is far advanced: for the custom of early rising is extremely conducive to health.

"To continue awake beyond a proper time, consumes the vital spirits, hurts the nerves, and causes many uneasy sensations. The fluids of the body become more acrid or sharp, the fat is consumed, and there comes on at length a tendency to giddiness, head-ache, and anxiety. Those who indulge themselves in much sleep are seldom liable to very strong passions. Excess of sleep, however, is prejudicial. The body sinks gradually into a complete state of inactivity, the solid parts become relaxed, the blood circulates slowly, and remains particularly long in the head. Perspiration is disordered, the body increases in fat and thick humours, the memory is enfeebled, and the person falls into such a state that his sensibility is, in a great measure, destroyed. It may be observed here, that old people, and those whose constitutions are not vigorous receive great relief from a short nap after dinner, it allows the chief energies tobe exerted in the stomach almost the whole body else entirely being at rest."

CHAPTER VI.

OF INTEMPERANCE.

THERE is not in the human character a more odious vice, nor one more truly degrading and destructive in its consequences, than that of habitual intemperance and drunkenness. It is to be considered as a gross offence against the law of nature, which directs us to preserve the use of our rational faculties. It is a palpable violation of the moral law, which commands that man shall to the utmost of his power preserve his own life. It is an unpardonable outrage against the laws of civil society, as it deprives the offender of the power with which the author of nature has endued him of contributing to the welfare and happiness of the common family of mankind.

In every country and nation where ardent spirits have been introduced, thousands of the hnman race have fallen victims to a brutal indulgence in that detestable vice. As it respects our own country, the following alarming facts are adduced for consideration. "It has been made to appear from substantial documents, that twenty-four million gallons of ardent spirits are distilled yearly in the United States—and that the importation of spirits had been, in former years, but little short of eight millions of gallons per annum. So that more than thirty million gallons a year have been consumed in this country.

"Now, supposing (and it is a very moderate computation) that, on an average, ten hogsheads, or a thousand gallons of those spirits, have occasioned the premature death of one person; then it will follow that the aforesaid thirty million gallons have brought our fellow countrymen to an untimely grave, at the rate of thirty thousand persons a year.

"Yes, it is not too much to say, that in these United States thirty thousand persons die yearly, by means of an immoderate use of brandy, rum, gin, and whiskey—not to mention a still greater nnmber of persons whom those intoxicating liquors render useless, and even a nuisance to society. What is the remedy for this dead-

ly evil? What mounds can be erected to stop the progress of this devouring deluge, not of water, but of *fire?*"

It is a consolation to the friends of humanity that many respectable and influential characters in our metropolis, and in various parts of New-England, are associating, and combining their efforts, to discourage and suppress the horrid practice of drunkenness and intemperance, and the most beneficial effects are anticipated from their very laudable endeavours.

No man ever contemplated that species of human depravity with more acute sensibility than the late philanthropic Dr. B. Rush, and no one perhaps, ever exhibited the moral turpitude of that vice, with the long train of miseries, and deplorable disorders, which necessarily result from it, with more justness and precision, than will be found in the following valuable production from his pen; entitled,

"*An Inquiry into the effects of Ardent Spirits,*" *&c.*

"PART I. By ardent spirits, I mean those liquors only which are obtained by distillation from fermented substances of any kind. To their effects upon the bodies and minds of men, the following inquiry shall be exclusively confined. Fermented liquors contain so little spirit, and that so intimately combined with other matters, that they can seldom be drunken in sufficient quantities to produce intoxication, and its subsequent effects, without exciting a disrelish to their taste, or pain, from their distending the stomach. They are, moreover, when taken in a moderate quantity, generally innocent, and often have a friendly influence upon health and life.

"The effects of ardent spirits divide themselves into such as are of a prompt, and such as are of a chronic nature. The former discover themselves in drunkenness; and the latter, in a numerous train of diseases and vices of the body and mind.

"I. I shall begin by briefly describing their prompt, or immediate effects, in a fit of drunkenness.

"This odious disease (for by that name it should be called) appears with more or less of the following symptoms, and most commonly in the order in which I shall enumerate them.

"1. Unusual garrulity.

"2. Unusual silence.

"3. Captiousness, and a disposition to quarrel.

"4. Uncommon good humour, and an insipid simpering, or laugh.

"5. Profane swearing, and cursing.

"6. A disclosure of their own, or other people's secrets.

"7. A rude disposition to tell those persons in company, whom they know, their faults.

"8. Certain immodest actions. I am sorry to say, this sign of the first stage of drunkenness, sometimes appears in women, who, when sober, are uniformly remarkable for chaste and decent manners.

"9. A clipping of words.

"10. Fighting; a black eye, or a swelled nose, often mark this grade of drunkenness.

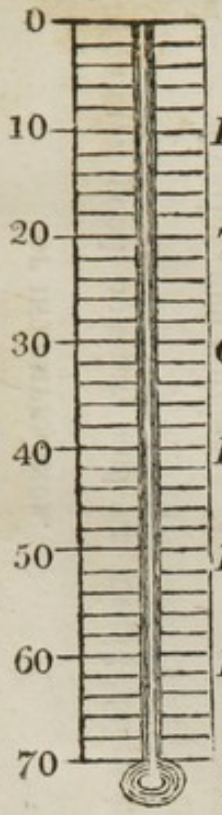
"11. Certain extravagant acts which indicate a temporary fit of madness.

"It belongs to the history of drunkenness to remark, that its paroxysms occur, like the paroxysms of many diseases, at certain periods, and after longer or shorter intervals. They often begin with annual, and gradually increase in their frequency, until they appear in quarterly, monthly, weekly, and quotidian or daily, periods. Finally, they afford scarcely any marks of remission, either during the day or the night.

"It is further remarkable, that drunkenness resembles certain hereditary, family, and contagious diseases. I have once known it to descend from a father, to four out of five of his children. I have seen three, and once four, brothers, who were born of sober ancestors, affected by it, and I have heard of its spreading through a whole family composed of members not originally related to each other. These facts are important, and should not be overlooked by parents, in deciding upon the matrimonial connexions of their children.

"Let us next attend to the chronic effects of ardent spirits upon the body and mind. In the body, they dispose to every form of acute disease; they moreover *excite* fevers in persons predisposed to them, from other causes. This has been remarked in all the yellow fevers which have visited the cities of the United States. Hard drinkers seldom escape, and rarely recover from them. The following diseases are the usual consequences of the habitual use of ardent spirits, viz.

INTEMPERANCE.

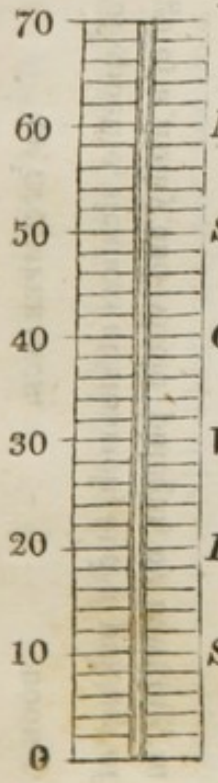


	Vices.	*Diseases.*	*Punishments.*
Punch,	Idleness,	Sickness,	Debt.
Toddy and Egg Rum,	Gaming, Peevishness, Quarrelling.	Tremors of the hands in the morning, puking, bloatedness,	Jail.
Grog—Brandy and Water,	Fighting, Horse Racing,	Inflamed eyes, red nose and face,	Black Eyes, and Rags.
Flip and Shrub,	Lying and Swearing,	Sore and swelled legs, jaundice,	Hospital, or Poor-House.
Bitters infused in Spirits and Cordials,	Stealing and Swindling,	Pains in the hands, burning in the hands and feet,	Bridewell.
Drams of Gin, Brandy, and Rum, in the Morning,	Perjury,	Dropsy, Epilepsy,	State Prison.
The same Morning and Evening,	Burglary,	Melancholy, Palsy, Apoplexy,	do. for Life.
The same during Day and Night.	Murder,	Madness, Despair,	GALLOWS.

"A MORAL AND PHYSICAL THERMOMETER.

A Scale of the Progress of Temperance and Intemperance.—Liquors, with Effects in their usual order.

TEMPERANCE.



Water, Health and Wealth.

Milk and Water,
Small Beer,
} Serenity of Mind, Reputation, Long Life, and Happiness.

Cider and Perry,
Wine,
Porter,
Strong Beer,
} Cheerfulness, Strength, and Nourishment, when taken only in small quantities, and at meals.

"1. A decay of appetite, sickness at stomach, and a puking of bile, or a discharge of a frothy and viscid phlegm, by hawking, in the morning.

"2. Obstructions of the liver.

"3. Jaundice, and dropsy of the belly and limbs, and finally of every cavity in the body.

"4. Hoarseness, and a husky cough, which often terminate in consumption, and sometimes in an acute and fatal disease of the lungs.

"5. Diabetes, that is, a frequent and weakening discharge of pale, or sweetish urine.

"6. Redness, and eruptions on different parts of the body. They generally begin on the nose, and after gradually extending all over the face, sometimes descend to the limbs, in the form of leprosy. They have been called 'Rum-buds,' when they appear in the face. In persons who have occasionally survived these effects of ardent spirits on the skin, the face, after a while, becomes bloated, and its redness is succeeded by a death-like paleness.

"7. A fetid breath, composed of every thing that is offensive in putrid animal matter.

"8. Frequent and disgusting belchings. Dr. Haller relates the case of a notorious drunkard having been suddenly destroyed, in consequence of the vapour discharged from his stomach by belching, accidentally taking fire by coming in contact with the flame of a candle.

"9. Epilepsy.

"10. Gout, in all its various forms of swelled limbs, colic, palsy, and apoplexy.

"Lastly, 11. Madness. The late Dr. Waters, while he acted as house pupil and apothecary of the Pennsylvania Hospital, assured me, that in one third of the patients confined by this terrible disease, it had been induced by ardent spirits.

"Most of the diseases which have been enumerated, are of a mortal nature. They are more certainly induced, and terminate more speedily in death, when spirits are taken in such quantities, and at such times, as to produce frequent intoxication; but it may serve to remove an error with which some intemperate people console themselves, to remark, that ardent spirits often bring on fatal diseases, without producing drunkenness. I have known

many persons destroyed by them, who were never completely intoxicated during the whole course of their lives. The solitary instances of longevity which are now and then met with in hard drinkers, no more disprove the deadly effects of ardent spirits, than the solitary instances of recoveries from apparent death by drowning, prove that there is no danger to life from a human body lying an hour or two under water.

"Not less destructive are the effects of ardent spirits upon the human mind. They impair the memory, debilitate the understanding, and pervert the moral faculties. It was probably from observing these effects of intemperance in drinking, upon the mind, that a law was formerly passed in Spain, which excluded drunkards from being witnesses in a court of justice. But the demoralizing effects of distilled spirits, do not stop here. They produce not only falsehood, but fraud, theft, uncleanliness, and murder. Like the demoniac mentioned in the New-Testament, their name is 'legion,' for they convey into the soul a host of vices and crimes.

"A more affecting spectacle cannot be exhibited, than a person into whom this infernal spirit, generated by habits of intemperance, has entered. It is more or less affecting, according to the station the person fills in a family, or in society, who is possessed by it Is he a husband? How deep the anguish which rends the bosom of his wife! Is she a wife? Who can measure the shame and aversion which she excites in her husband? Is he the father, or is she the mother, of a family of children? See their averted looks from their parent, and their blushing looks at each other! Is he a magistrate? or has he been chosen to fill a high and respectable station in the councils of his country? What humiliating fears of corruption in the administration of the laws, and of the subversion of public order and happiness, appear in the countenances of all who see him! Is he a minister of the gospel?—Here language fails me.—If angels weep—it is at such a sight.

"In pointing out the evils produced by ardent spirits, let us not pass by their effects upon the estates of the persons who are addicted to them. Are they inhabitants of cities?—Behold! their houses stripped gradually of their furniture, and pawned, or sold by a constable, to pay tavern debts. See! their names upon record in the dockets of every court, and whole pages of newspapers filled with advertisements of their estates for public sale. Are they inhabi-

tants of country places? Behold! their houses with shattered windows,—their barns with leaky roofs,—their gardens overrun with weeds,—their fields with broken fences, their hogs without yokes, their sheep without wool,—their cattle and horses without fat,—and their children filthy and half clad, without manners, principles and morals. This picture of agricultural wretchedness is seldom of long duration. The farms and property thus neglected, and depreciated, are seized and sold for the benefit of a group of creditors. The children that were born with the prospect of inheriting them, are bound out to service in the neighbourhood; while their parents, the unworthy authors of their misfortunes, ramble into new and distant settlements, alternately fed on their way by the hand of charity, or a little casual labour.

"Thus we see poverty and misery, crimes and infamy, diseases and death, are all the natural and usual consequences of the intemperate use of ardent spirits.

"I have classed death among the consequences of hard drinking. But it is not death from the immediate hand of the Deity, nor from any of the instruments of it which were created by him. It is death from *suicide*. Yes—thou poor degraded creature, who art daily lifting the poisoned bowl to thy lips—cease to avoid the unhallowed ground in which the self-murderer is interred, and wonder no longer that the sun should shine, and the rain fall, and the grass look green upon his grave. Thou art perpetrating gradually, by the use of ardent spirits, what he has effected suddenly, by opium—or a halter. Considering how many circumstances from surprise, or derangement, may palliate his guilt, or that, (unlike yours) it was not preceded and accompanied by any other crime, it is probable his condemnation will be less than yours at the day of judgment.

"I shall now take notice of the occasions and circumstances which are supposed to render the use of ardent spirits necessary, and endeavour to shew that the arguments in favour of their use in such cases are founded in error, and that in each of them, ardent spirits, instead of affording strength to the body, increase the evils they are intended to relieve.

"1. They are said to be necessary in very cold weather. This is far from being true; for the temporary warmth they produce, is always succeeded by a greater disposition in the body to be affected by cold. Warm dresses, a plentiful meal just before exposure

to the cold, and eating occasionally a little gingerbread, or any other cordial food, is a much more durable method of preserving the heat of the body in cold weather.

"2. They are said to be necessary in very warm weather. Experience proves that they increase, instead of lessening the effects of heat upon the body, and thereby dispose to diseases of all kinds. Even in the warm climate of the West-Indies, Dr. Bell asserts this to be true. "Rum (says this author) whether used habitually, moderately, or in excessive quanties in the West-Indies, always diminishes the strength of the body, and renders men more susceptible of disease, and unfit for any service in which vigour or activity is required."* As well might we throw oil into a house, the roof of which was on fire, in order to prevent the flames from extending to its inside, as pour ardent spirits into the stomach, to lessen the effects of a hot sun upon the skin.

"3. Nor do ardent spirits lessen the effects of hard labour upon the body. Look at the horse; with every muscle of his body swelled from morning till night in the plough, or a team, does he make signs for a draught of toddy, or a glass of spirits to enable him to cleave the ground, or to climb a hill?—No—he requires nothing but cool water and substantial food. There is no nourishment in ardent spirits. The strength they produce in labour is of a transient nature, and is always followed by a sense of weakness and fatigue.

"But are there no corditions of the human body in which ardent spirits may be given? I answer—there are. 1st. When the body has been suddenly exhausted of its strength, and a disposition to faintness has been induced. Here a few spoonfuls, or a glass full of spirits, with or without water, may be administered with safety and advantage. In this case we comply strictly with the advice of Solomon, who restricts the use of "strong drink" only "to him who is ready to perish."—2dly. When the body has been exposed for a long time to wet weather, more especially, if it be combined with cold. Here a moderate quantity of spirits is not only safe, but highly proper to obviate debility, and to prevent a fever. They will more certainly have those salutary effects, if the feet are at the same time bathed with them, or a half a pint of them poured into

* Inquiry into the causes which produce, and the means of preventing diseases among British officers, soldiers and others in the West-Indies.

the shoes or boots. These I believe are the only two cases in which distilled spirits are useful or necessary to persons in health.

"PART II. But it may be said, if we reject spirits from being a part of our drinks, what liquors shall we substitute in their room? I answer, in the first place,

"1. SIMPLE WATER. I have known many instances of persons who have followed the most laborious employments for many years, in the open air, and in warm and cold weather, who never drank any thing but water, and enjoyed uninterrupted good health. Dr. Mosely, who resided many years in the West Indies, confirms this remark. 'I aver, (says the Doctor) from my own knowledge and custom, as well as the custom and observations of many other people, that those that drink nothing but water, or make it their principal drink, are little affected by the climate, and can undergo the greatest fatigue without inconvenience, and are never subject to troublesome or dangerous diseases.'

"Persons who are unable to relish this simple beverage of nature, may drink some one, or of all the following liquors, in preference to ardent spirits.

"2. CIDER. This excellent liquor contains a small quantity of spirit, but so diluted, and blunted by being combined with a large quantity of saccharine matter, and water, as to be perfectly wholesome. It sometimes disagrees with persons subject to the rheumatism, but it may be made inoffensive to such people, by extinguishing a red hot iron in it, or by mixing it with water.

"3. MALT LIQUORS. The grain from which these liquors are obtained, is not liable, like the apple, to be affected by frost, and therefore they can be procured, at all times, and at a moderate price. They contain a good deal of nourishment; hence we find many of the poor people in Great Britain endure hard labour with no other food than a quart or three pints of beer, with a few pounds of bread in a day. As it will be difficult to prevent small beer from becoming sour in warm weather, an excellent substitute may be made for it by mixing bottled porter, ale, or strong beer with an equal quantity of water; or a pleasant beer may be made by adding to a bottle of porter, ten quarts of water, and a pound of brown sugar or a pint of molasses. After they have been well mixed, pour the liquor into bottles and place them loosely corked in a cool cellar. In two or three days, it will be fit for use. A spoon-

ful of ginger added to the mixture, renders it more lively and agreeable to the taste.

"4. WINES. These fermented liquors are composed of the same ingredients as cider, and are both cordial and nourishing. The peasants of France who drink them in large quantities, are a sober and healthy body of people. Unlike ardent spirits, which render the temper irritable, wines generally inspire cheerfulness and good humour. It is to be lamented that the grape has not as yet been cultivated in our country, to afford wine for our citizens; but many sufficiently excellent substitutes may be made for it, from the native fruits of all the states. If two barrels of cider fresh from the press, are boiled into one, and afterwards fermented and kept for two or three years in a dry cellar, it affords a liquor which, according to the quality of the apple from which the cider is made, has the taste of Malaga, or Rhenish wine. It affords, when mixed with water, a most agreeable drink in summer. I have taken the liberty of calling it POMONA WINE. There is another method of making a pleasant wine from the apple, by adding four and twenty gallons of new cider to three gallons of syrup made from the expressed juice of sweet apples. When thoroughly fermented, and kept for a few years, it becomes fit for use.

"5. MOLASSES and WATER, also VINEGAR and WATER sweetened with sugar or molasses, form an agreeable drink in warm weather. It is pleasant and cooling, and tends to keep up those gentle and uniform sweats on which health and life often depend. Vinegar and water constituted the only drink of the soldiers of the Roman republic, and it is well known they marched and fought in a warm climate, and beneath a load of arms which weighed sixty pounds. Boaz, a wealthy farmer in Palestine, we find, treated his reapers with nothing but bread dipped in vinegar. To such persons as object to the taste of Vinegar, sour milk, or butter milk, or sweet milk diluted with water, may be given in its stead. I have known the labour of the longest and hottest days in summer supported by means of these pleasant and wholesome drinks with great firmness, and ended with scarcely a complaint of fatigue.

"6. The SUGAR MAPLE affords a thin juice, which has long been used by the farmers in Connecticut as a cool and refreshing drink in the time of harvest.

"7. COFFEE possesses agreeable and exhilarating qualities, and might be used with great advantage to obviate the painful effects

of heat, cold and fatigue upon the body. I once knew a country physician who made it a practice to drink a pint of strong coffee previous to his taking a long or cold ride. It was more cordial to him than spirits, in any of the forms in which they are commonly used.

"Let it not be said, ardent spirits have become necessary from habit in harvest, and in other seasons of uncommon and arduous labour. The habit is a bad one, and may be easily broken. Let but half a dozen farmers in a neighbourhood combine to allow higher wages to their labourers than are common, and a sufficient quantity of *any* of the pleasant and wholesome liquors I have recommended, and they may soon, by their example, abolish the practice of giving them spirits.

"In a little while they will be delighted with the good effects of their association. Their grain and hay will be gathered into their barns in less time, and in a better condition than formerly, and of course at a less expense, and an hundred disagreeable scenes from sickness, contention and accidents will be avoided, all of which follow, in a greater or less degree, the use of ardent spirits.

"Valetudinarians, especially those who are afflicted with diseases of the stomach and bowels, are very apt to seek relief from ardent spirits. Let such people be cautious how they make use of this dangerous remedy. I have known many men and women, of excellent characters and principles, who have been betrayed by occasional doses of gin and brandy, into a love of those liquors, and have afterwards fallen sacrifices to their fatal effects. The different preparations of opium are much more safe and efficacious than distilled cordials of any kind, in flatulent or spasmodic affections of the stomach and bowels. So great is the danger of contracting a love for distilled liquors by accustoming the stomach to their stimulus, that as few medicines as possible should be given in spirituous vehicles, in chronic diseases. A physician of great eminence, and uncommon worth, who died towards the close of the last century, in London, in taking leave of a young physician of this city, who had finished his studies under his patronage, impressed this caution with peculiar force upon him, and lamented at the same time, in pathetic terms, that he had innocently made many sots by prescribing brandy and water in stomach somplaints. It is difficult to tell how many persons have been destroyed by those physicians who have adopted Dr. Brown's indiscriminate practice in the use

of stimulating remedies; the most popular of which is ardent spirits; but it is well known, several of them have died of intemperance in this city, since the year 1790.

"Smoking and chewing tobacco, by rendering water and simple liquors insipid to the taste, dispose very much to the stronger stimulus of ardent spirits. The practice of smoking cigars, has, in every part of our country, been more followed by a general use of brandy and water, as a common drink, more especially by that class of citizens who have not been in the habit of drinking wine, or malt liquors. The less, therefore, tobacco is used in the above ways, the better.

"No man ever became suddenly a drunkard. It is by gradually accustoming the taste and stomach to ardent spirits, in the forms of *grog*, and *toddy*, that men have been led to love them in their destructive mixtures and in their simple state. Under theim pression of this truth, were it possible for me to speak, with a voice so loud as to be heard from the river St. Croix, to the remotest shores of the Mississippi, which bound the territory of the United States, I would say,—Friends and Fellow Citizens! avoid the habitual use of those two seducing liquors, whether they be made with brandy, rum, gin, Jamaica spirits, whiskey, or what is called cherry bounce. It is true, some men, by limiting the strength of those drinks, by measuring the spirit and water, have drunken them for many years, and even during a long life, without acquiring habits of intemperance or intoxication; but many more have been insensibly led, by drinking weak toddy, and grog, first at their meals, to take them for their constant drink, in the intervals of their meals; afterwards, to take them, of an increased strength, before breakfast in the morning, and finally to destroy themselves by drinking undiluted spirits, during every hour of the day and night. I am not singular in this remark. 'The consequences of drinking rum and water, or *grog* as it is called, (says Dr. Mosely) is, that habit increases the desire of more spirit, and decreases its effects; and there are very few grog-drinkers, who long survive the practice of debauching with it, without acquiring the odious nuisance of a dram-drinker's breath, and downright stupidity and impotence.'* To enforce the caution against the use of those two apparently innocent and popular liquors still further, I shall select one in-

* Treatise on Tropical Diseases.

stance, from among many, to shew the ordinary manner in which they beguile and destroy their votaries. A citizen of Philadelphia, once of a fair and sober character, drank toddy for many years, as his constant drink. From this he proceeded to drink grog. After a while, nothing would satisfy him, but slings made of equal parts of rum and water, with a little sugar. From slings, he advanced to raw rum, and from common rum to Jamaica spirits. Here he rested for a few months, but at length finding even Jamaica spirits were not strong enough to warm his stomach, he made it a constant practice to throw a table spoonful of ground pepper into each glass of his spirits, in order, to use his own words, 'to take off their coldness.' He soon afterwards died a martyr to his intemperance.

"Ministers of the gospel, of every denomination in the United States!—aid me with all the weight you possess in society, from the dignity and usefulness of your sacred office, to save our fellow men from being destroyed by the great destroyer of their lives and souls. In order more successfully to effect this purpose, permit me to suggest to you, to employ the same wise modes of instruction, which you use in your attempts to prevent their destruction by other vices. You expose the evils of covetousness, in order to prevent theft; you point out the sinfulness of impure desires, in order to prevent adultery; and you dissuade from anger, and malice, in order to prevent murder. In like manner, denounce, by your preaching, conversation and example, the seducing influence of toddy and grog, when you aim to prevent all the crimes and miseries which are the offspring of strong drink.

"We have hitherto considered the effects of ardent spirits upon individuals, and the means of preventing them. I shall close this head of our inquiry, by a few remarks on their effects upon the population and welfare of our country, and the means of obviating them.

"It is highly probable, not less than four thousand people die annually, from the use of ardent spirits, in the United States. Should they continue to exert this deadly influence upon our population, where will their evils terminate? This question may be answered by asking, where are all the Indian tribes, whose numbers and arms formerly spread terror among their civilized neighbours? I answer in the words of the famous Mingo Chief, 'the blood of many of them flows not in the veins of any human

creature.' They have perished, not by pestilence or war, but by a greater foe to human life than either of them,—Ardent Spirits. The loss of four thousand American citizens, by the yellow fever, in a single year, awakened general sympathy and terror, and called forth all the strength and ingenuity of laws, to prevent its recurrence. Why is not the same zeal manifested in protecting our citizens from the more general and consuming ravages of distilled spirits?—Should the customs of civilized life preserve our nation from extinction, and even from an increase of mortality, by those liquors, they cannot prevent our country being governed by men, chosen by intemperate and corrupted voters. From such legislators, the republic would soon be in danger. To avert this evil, —let good men, of every class, unite and besiege the general and state governments, with petitions to limit the number of taverns—to impose heavy duties upon ardent spirits—to inflict a mark of disgrace, or a temporary abridgment of some civil right, upon every man, convicted of drunkenness; and finally, to secure the property of habitual drunkards, for the benefit of their families, by placing it in the hands of trustees, appointed for that purpose, by a court of justice.

"To aid the operation of these laws, would it not be extremely useful for the rulers of the different denominations of Christian churches to unite, and render the sale and consumption of ardent spirits a subject of ecclesiastical jurisdiction?—The Methodists, and society of Friends, have, for some time past, viewed them as contraband articles, to the pure laws of the gospel, and have borne many public and private testimonies against making them the object of commerce. Their success in this benevolent enterprize, affords ample encouragement for all other religious societies to follow their example.

"PART III. We come now to the third part of this Inquiry; that is, to mention the remedies for the evils which are brought on by the excessive use of distilled spirits. These remedies divide themselves into two kinds.

"I. Such as are proper to cure a fit of drunkenness; and

"II. Such as are proper to prevent its recurrence, and to destroy a desire for ardent spirits.

"I. I am aware, that the efforts of science and humanity, in applying their resources to the cure of a disease induced by an act

of vice, will meet with a cold reception from many people. But let such people remember, the subjects of our remedies are their fellow creatures, and that the miseries brought upon human nature, by its crimes, are as much the object of divine compassion, (which we are bound to imitate,) as the distresses which are brought upon men by the crimes of other people, or which they bring upon themselves, by ignorance or accidents. Let us not, then, pass by the prostrate sufferer from strong drink, but administer to him the same relief, we would afford to a fellow creature, in a similar state, from an accidental and innocent cause.

"1. The first thing to be done to cure a fit of drunkenness, is to open the collar, if in a man, and remove all tight ligatures from every other part of the body. The head and shoulders should at the same time be elevated, so as to favour a more feeble determination of the blood to the brain.

"2. The contents of the stomach should be discharged, by thrusting a feather down the throat. It often restores the patient immediately to his senses and feet. Should it fail of exciting a puking,

"3. A napkin should be wrapped round the head, and wetted an hour or two with cold water, or cold water should be poured in a stream upon the head. In the latter way I have sometimes seen it used, when a boy, in the city of Philadelphia. It was applied, by dragging the patient, when found drunk in the street, to a pump, and pumping water upon his head for ten or fifteen minutes. The patient generally rose and walked off, sober and sullen, after the use of this remedy.

"Other remedies, less common, but not less effectual for a fit of drunkenness are,

"4. Plunging the body into cold water. A number of gentlemen, who had drunken to intoxication, on board of a ship in the stream near Fell's point, at Baltimore, in consequence of their reeling in a small boat, on their way to the shore, in the evening, overset it, and fell into the water. Several boats from the shore hurried to their relief. They were all picked up, and went home, perfectly sober to their families.

"5. Terror. A number of young merchants, who had drunken together, in a compting-house, on James river, above thirty years ago, until they were intoxicated, were carried away by a

sudden rise of the river, from an immense fall of rain. They floated several miles with the current, in their little cabin, half filled with water. An island in the river arrested it. When they reached the shore that saved their lives, they were all sober. It is probable terror assisted in the cure of the persons who fell into the water at Baltimore.

"6. The excitement of a fit of anger. The late Dr. Witherspoon used to tell a story of a man in Scotland, who was always cured of a fit of drunkenness, by being made angry. The mean chosen for that purpose, was a singular one. It was talking against religion.

"7. A severe whipping. This remedy acts by exciting a revulsion of the blood from the brain, to the external parts of the body.*

"8. Profuse sweats. By means of this evacuation, nature sometimes cures a fit of drunkenness. Their good effects are obvious in labourers, whom quarts of spitits taken in a day will seldom intoxicate, while they sweat freely. If the patient be unable to swallow warm drinks, in order to produce sweats, they may be excited by putting him in a warm bath, or wrapping his body in blankets, under which should be placed half a dozen hot bricks, or bottles filled with hot water.

"9. Bleeding. This remedy should always be used where the former ones have been prescribed to no purpose, or where there is reason to fear from the long duration of the disease, a material injury may be done to the brain.

"It is hardly necessary to add, that each of the above remedies should be regulated by the grade of drunkenness, and the greater or less degree, in which the intellects are affected by it.

"II. The remedies which are proper to prevent the recurrence of fits of drunkenness, and to destroy the desire for ardent spirits, are religious, metaphysical, and medical. I shall briefly mention them.

"1. Many hundred drunkards have been cured of their desire for ardent spirits, by a practical belief in the doctrines of the Christian religion. Examples of the divine efficacy of Christia-

* I have been assured by a respectable physician, that many instances have occurred of persons found dead-drunk in the streets, who, on receiving a few stripes on the naked skin, have been instantly renovated so as to use their legs, and walk off as if nothing had happened, and he believes this application to be infallible.

nity for this purpose, have lately occcurred in many parts of the United States.

"2. A sudden sense of the guilt contracted by drunkenness, and of its punishment in a future world. It once cured a gentleman in Philadelphia, who, in a fit of drunkenness, attempted to murder a wife whom he loved. Upon being told of it when he was sober, he was so struck with the enormity of the crime he had nearly committed, that he never tasted spirituous liquors afterwards.

"3. A sudden sense of shame. Of the efficacy of this deep-seated principle in the human bosom, in curing drunkenness, I shall relate three remarkable instances.

"A farmer in England, who had been many years in the practice of coming home intoxicated, from a market town, one day observed appearances of rain, while he was in market. His hay was cut, and ready to be housed. To save it, he returned in haste to his farm, before he had taken his customary dose of grog. Upon coming into his house, one of his children, a boy of six years old, ran to his mother, and cried out "O! mother, father is come home, and he is not drunk." The father, who heard this exclamation, was so severely rebuked by it, that he suddenly became a sober man.

"A noted drunkard was once followed by a favorite goat, to a tavern, into which he was invited by his master, and drenched with some of his liquor. The poor animal staggered home with his master, a good deal intoxicated. The next day he followed him to his accustomed tavern. When the goat came to the door, he paused: his master made signs to him to follow him into the house. The goat stood still. An attempt was made to thrust him into the tavern. He resisted, as if struck with the recollection of what he suffered from being intoxicated the night before. His master was so much affected by a sense of shame, in observing the conduct of his goat to be so much more rational than his own, that he ceased from that time to drink spirituous liquors.

"A gentleman in one of the southern states, who had nearly destroyed himself by strong drink, was remarkable for exhibiting the grossest marks of folly in his fits of intoxication. One evening, sitting in his parlor, he heard an uncommon noise in his kitchen. He went to the door, and peeped through the key-hole,

from whence he saw one of his negroes diverting his fellow-servants, by mimicking his master's gestures and conversation when he was drunk.—The sight overwhelmed him with shame and distress, and instantly became the means of his reformation.

"4. The association of the idea of ardent spirits, with a painful or disagreeable impression upon some part of the body, has sometimes cured the love of strong drink. I once tempted a negro man, who was habitually fond of ardent spirits, to drink some rum, (which I placed in his way) and in which I had put a few grains of tartar emetic.—The tartar sickened and puked him to such a degree, that he supposed himself to be poisoned. I was much gratified by observing he could not bear the sight nor smell of spirits for two years afterwards.

"I have heard of a man who was cured of the love of spirits, by working off a puke, by large draughts of brandy and water; and I know a gentleman, who, in consequence of being affected with a rheumatism, immediately after drinking some toddy, when overcome with fatigue and exposure to the rain, has ever since loathed that liquor, only because it was accidentally associated in his memory with the recollection of the pain he suffered from his disease.

"This appeal to that operation of the human mind, which obliges it to associate ideas, accidentally or otherwise combined, for the cure of vice, is very ancient. It was resorted to by Moses, when he compelled the children of Israel to drink the solution of the golden calf (which they had idolized) in water. This solution, if made, as it most probably was, by means of what is called hepar sulphuris, was extremely bitter and nauseous, and could never be recollected afterwards, without bringing into equal detestation, the sin which subjected them to the necessity of drinking it. Our knowledge of this principle of association upon the minds and conduct of men, should lead us to destroy, by means of other impressions, the influence of all those circumstances with which the recollection and desire of spirits are combined. Some men drink only in the *morning*, some at *noon*, and some at *night*. Some men drink only on a *market day*, some at *one* tavern only, and some only in *one kind* of company. Now by finding a new and interesting employment, or subject of conversation for drunkards at the usual times in which they have been accustomed to drink, and by restraining them by the same means from those places and

companions, which suggested to them the idea of ardent spirits, their habits of intemperance may be completely destroyed. In the same way the periodical returns of appetite, and a desire of sleep have been destroyed in a hundred instances. The desire for strong drink differs from each of them, in being of an artificial nature, and therefore not disposed to return, after being chased for a few weeks from the system.

"5. The love of ardent spirits has sometimes been subdued, by exciting a counter passion in the mind. A citizen of Philadelphia, had made many unsuccessful attempts to cure his wife of drunkenness. At length, despairing of her reformation, he purchased a hogshead of rum, and, after tapping it, left the key in the door of the room in which it was placed, as if he had forgotten it. His design was to give his wife an opportunity of drinking herself to death. She suspected this to be his motive, in what he had done, and suddenly left off drinking. Resentment here became the antidote to intemperance.

"6. A diet consisting wholly of vegetables cured a physician in Maryland of drunkenness, probably by lessening that thirst, which is always more or less excited by animal food.

"7. Blisters to the ankles, which were followed by an unusual degree of inflammation, once suspended the love of ardent spirits, for one month, in a lady in this city. The degrees of her intemperance may conceived of, when I add, that her grocer's accompt for brandy alone, amounted annually, to one hundred pounds, Pennsylvania currency, for several years.

"8. A violent attack of an acute disease has sometimes destroyed a habit of drinking distilled liquors. I attended a notorious drunkard, in the yellow fever, in the year 1798, who recovered, with the loss of his relish for spirits, which has, I believe, continued ever since.

"9. A salivation has lately performed a cure of drunkenness in a person in Virginia. The new disease excited in the mouth and throat, while it rendered the action of the smallest quantity of spirits upon them painful, was happily calculated to destroy the disease in the stomach which prompts to drinking, as well as to render the recollection of them disagreeable, by the laws of association formerly mentioned.

"10. I have known an oath taken before a magistrate, to drink no more spirits, produce a perfect cure of drunkenness. It is

sometimes cured in this way in Ireland. Persons who take oaths for this purpose, are called affidavit men.

"11. An advantage would probably arise from frequent representations being made to drunkards, not only of the certainty, but of the *suddenness* of death, from habits of intemperance. I have heard of two persons being cured of the love of ardent spirits, by seeing death suddenly induced by fits of intoxication; in the one case, in a stranger, and in the other, in an intimate friend.

"12. It has been said, that the disuse of spirits should be gradual; but my observations authorize me to say, that persons who have been addicted to them, should abstain from them *suddenly* and *entirely*. 'Taste not, handle not, touch not,' should be inscribed upon every vessel that contains spirits in the house of a man, who wishes to be cured of habits of intemperance. To obviate, for a while, the debility which arises from the sudden abstraction of the stimulus of spirits, laudanum, or bitters infused in water, should be taken, and perhaps a larger quantity of beer or wine, than is consistent with the strict rules of temperate living. By the temporary use of these substitutes for spirits, I have never known the transition to sober habits to be attended with any bad effects, but often with permanent health of body, and peace of mind."

One disease, caused by the intemperate use of ardent spirits, should be added to the foregoing catalogue of Dr. Rush. It is that denominated delirium tremens, delirium vigilans, or brain fever of drunkards. This singular disease, I believe, in general commences some days after a sudden disuse of spirits, and sometimes in subjects addicted to the use of spirits to excess, without becoming actually drunk. The delirium seems to differ from all other mental derangements. It comes on gradually, and several days elapse before it arrives at the stage of its greatest violence. It is attended by tremors of the whole body, but particularly of the hands, with profuse sweating, and almost unsubduable watchfulness. Several cases of this singular affection have, within a few years, come under my observation, and it has occurred several times in the same individual. This disease is always attended by febrile symptoms, and it is one of its peculiarities, that the mind is continually haunted with the idea that they are infested by snakes and insects. I have frequently seen patients wearied in attempting to catch snakes, which they imagined were curling

about them under their clothes. It should be our endeavour, in these cases, to procure calm and quiet sleep, as the result will be a speedy subsidence of the symptoms. The remedies usually resorted to, are bleeding, emetics, cathartics, and blisters, with low diet. The patient should be indulged with mild treatment, unless he is outrageous, when close confinement becomes necessary. The most essential and speedy relief is to be obtained by large and repeated doses of opium. I have administered opium, from 2 to 4 grains, every two hours, until 35 grains were taken, and about ten grains of digitalis, before sleep could be induced; the result was an abatement of the delirium, and a speedy removal of the complaint. Stramonium may be advantageously combined with opium, and their effects upon the system continued until the desired result be obtained.

CHAPTER V.

OF EVACUATIONS.

The three principal evacuations established by nature to free the body from the superabundance of fluids, are those by stool, urine, and insensible perspiration.

Of the Evacuation by Stool.

No one can enjoy uninterrupted health without a due regularity of the excretions from the intestines. If the fæces be expelled too soon, or if too long retained, the system must suffer inconvenience. Too copious evacuations of this kind, deprive the body of its nourishment, and of that strength which is necessary to support its exertions. By a contrary state, the circulation of the blood in the intestinal vessels is retarded, and the retained fæces communicate a noxious quality to the fluids. Indeed, much depends on a proper regulation of this evacuation, without which the most rigorous observance of dietetic rules is insufficent for the preservation of our health. In healthy individuals, the evacuation by stool usually takes place once in a day; but this is variable in different persons, and even in the same person at different times, according to any incidental deviation from regularity in diet, exercise and sleep. It is liable to be affected both by the quantity and quality of the food taken, and also by the particular habits of individuals. Lying late in bed is unfavourable to this discharge, not only by the warmth, which, increasing perspiration, diminishes all the other discharges, but likewise by the inactivity, and even posture of the body. Those are seldom subject to costiveness who rise early and use exercise in the open air, and, at the same time, solicit nature by going regularly to stool every morning, whether there is a call or not. This will in time induce a habit which will eventually become natural.

With respect to medicine for obviating a costive disposition, the reader is referred to the chapter on costiveness; and to that on diarrhœa, for the proper remedies for that complaint.

Of Urine.

The discharge by urine is more frequent than that by stool, and is also more variable in quality and quantity; on account of its being greatly influenced by the nature of the aliments, the state of perspiration and the temperature of the air. The urine, being strongly impregnated with salts and oils, if it be retained too long in the bladder, becomes acrid and corrosive, and proves the cause of many disorders. According to the higher or paler colour of the urine, in an ordinary state of health, the body may be considered as being more or less vigorous. If, after long standing, no sediment be deposited in it, great weakness is supposed to be indicated. When it yields a sediment resembling brick dust, an impure state of the stomach is the inference. But all pretensions to discover the *future* affections of the body by inspection of the urine only, are too absurd and ridiculous to deserve consideration.

As a free discharge of urine not only prevents, but actually cures, many diseases, it ought, by all means, to be promoted; and every thing that tends to obstruct it should be carefully avoided. Food of a heating quality, and sleeping on beds that are too soft and warm, by increasing perspiration, will diminish this discharge. Persons who suffer from a deficiency of urine, ought to take moderate exercise, and to eat of such herbs and fruits as parsley, asparagus, celery, strawberries, &c. using at the same time thin drinks gently acidulated with the vegetable acids. The appropriate remedies in cases of too copious discharge of urine will be detailed when treating of Diabetes; and other affections of the kidneys and bladder will be notified in their proper place. One caution, however, ought to be suggested here; instances have occurred, where persons, by too long retaining their urine, from motives of false delicacy, have lost the power of discharging it. The bladder being too much distended, has become paralytic; and every effort to cure it has proved abortive. Such dreadful examples ought to serve as a warning against ever permitting a preposterous delicacy to operate, when the consequence must be of such a serious nature.

Of Insensible Perspiration.

Among the natural evacuations on which the life and health of man so essentially depends, none is so important and extensive as

that of insensible perspiration. According to the calculation of some, a person of middle stature, and in perfect health, perspires from three to four or five pounds weight during the twenty-four hours. It exceeds in quantity all the other evacuations, and, of course, every suppression of it must inevitably occasion a serious interruption to health. This discharge from the system, varies in different seasons, climates and constitutions, and is much influenced by the casual diversities in exercise, food, and exposure to heat or cold. It is, however, in general, more copious and uniform during the night, on account of the warmth of the bed and uniformity of the surrounding atmosphere.

Insensible perspiration is weaker after a plentiful meal, which accounts for the chilliness often felt on that occasion. But as soon as the food is digested, this discharge returns with increased energy. The chyle, now changed into blood, imparts additional force to the vital powers, as well as to the circulation of the blood itself. The process of perspiration is supposed to be most forcibly affected, and sometimes totally suppressed by the following circumstances: 1. By violent pain, which in a remarkable degree consumes the fluids of the body, or propels them to other parts. 2. By obstructions of the vessels of the skin, which are frequently occasioned by the use of salves, ointments, and cosmetics. 3. By severe colds, especially those contracted at night, and during sleep. 4. When nature is either weak, or endeavours to promote any other species of evacuation; or, as was before observed, during the time of concoction, particularly after using food that is difficult to be digested. Perspiration, on the contrary, is promoted by moderate exercise, the warm bath, and mild sudorific medicines; to which may be added friction, cleanliness, and the exhilarating passions, hope and joy.

When perspiration is too profuse, indicating a weakness of the body, and laxity of the vessels of the skin, it is best removed by cold bathing.

The variable state of the atmosphere, and the mutability of the weather, are among the most frequent causes of obsructed perspiration; to counteract the influence of which, and fortify the body against them, nothing is so efficacious as being abroad whenever health will permit; for those who seclude themselves from the open air become extremely susceptible of its influence on every exposure.

The evening air, especially when accompanied with dews, which fall most plentifully after the hottest day in summer, is a very frequent cause of obstructed perspiration; this will suggest the prudent caution of avoiding as much as possible exposure to them. Those who inhabit marshy countries, where exhalations, fogs, and dews are more copious, are often seized with dangerous diseases, from an imprudent neglect of this caution.

Another cause by which perspiration is liable to be greatly obstructed, is wet clothes; fevers, rheumatisms, and a multiplicity of diseases often originate from this source. Persons therefore immediately after getting wet should change their clothes, or keep constantly in motion till they become dry, but to sit or lie down in the fields with wet clothes, is an act of imprudence liable to produce the most fatal effects.

Perspiration is very frequently obstructed in consequence of wet feet, and this produces colics, inflamation of the bowels and other dangerous affections; nothing sooner induces a fit of the gout in people subject to that complaint. It is therefore of great importance that the feet be well guarded, by thick shoes, against wet grounds and morning dews.

Damp houses, and rooms, rendered so by being newly plastered or painted, are extremely unwholesome, and a frequent source of consumptions and other diseases. The noxious smell of the materials used in painting is well known to occasion pernicious effects.

It has long been a received opinion that damp beds are a fruitful source of diseases, such as fevers, rheumatisms, consumptions, &c. Although Dr. Heberden, an eminent physician, maintains the opposite opinion, the respectable authority and universal belief relative to the danger resulting from damp sheets, must deter all who have a regard for health from submitting to make a personal experiment on the subject.

It is well understood that all sudden transitions from heat to cold have a remarkable effect in suppressing perspiration. Those who confine themselves in a warm room, and drink hot liquors till the pores become open, and immediately go into the cold air, may expect to suffer the severest consequences; by such imprudent conduct thousands have forfeited their lives. The same disagreeable effects are apt to ensue, when people while in a hot room, place themselves near an open window; for, the current of air being thus directed against one particular part of the body, it is scarcely pos-

sible to escape catching cold in such a situation: nor is it much less hazardous to sleep with open windows near the bed, even in the hottest season.

It is likewise proper to caution people against the practice of drinking cold water, or other cold liquors, when the blood is hot and perspiration free. Numerous instances have occurred of persons having expired before leaving the pump from which they had taken the fatal draught. But the more favourable consequences resulting from this practice are hoarseness, quinseys, and various febrile affections. When therefore, a man is afflicted with extreme thirst while hot, he ought not to drink a large quantity at once, but first rinse his mouth, which if frequently repeated has a powerful effect in abating thirst. If a spoonful of brandy or other spirits where it can be procured be taken into the mouth, or a bit of bread be eaten with a few mouthfuls of water, much less danger is to be apprehended. But if, regardless of consequences, a man has imprudently, when hot, drunk freely of cold liquor, his safety will require that he take active exercise till the liquor be thoroughly warmed upon his stomach; and this will counteract the hurtful effects of the chilliness which would otherwise ensue. The best remedy for cramp in consequence of drinking cold water when the body is hot, is laudanum; if the symptoms are very severe, a large spoonful every ten minutes, as the time is short. In less severe cases a teaspoonful as often. Camphorated Brandy also given liberally internally, and spirituous fomentations applied to the bowels, by which the patient will be relieved from the irritation and spasms: In some cases death has been hurried on by blood letting. In instances of this kind the use of the lancet shou'd be severely reprobated. In bad cases, use the warmth bath immediately, and inject into the bowels a pint of spirits and water, one part of the former to two of the latter.

It is a well known fact, that horses have frequently been destroyed in consequence of drinking freely of cold water, when their bodies were heated, and their exercise was soon after discontinued.

Of the Saliva.

The saliva is a fluid supplied from the glands of the mouth, for the purpose of mixing with the food in the act of mastication or chewing, and essentially contributes to the process of digestion. If this fluid be evacuated too copiously, for instance, by those who indulge in smoking tobacco, it is extremely detrimental, as it weakens the

organs of digestion, deprives the body of many useful fluids, and has a direct tendency to emaciation, particularly in young persons, and those of lean and dry fibres. Frequent smoking makes the teeth black; white clay pipes are apt to canker the enamel of the teeth to such a degree as to infect the breath, and produce ulcers in the gums. To persons of a middle age, or those of full growth, particularly the corpulent, the phlegmatic, and such as are subject to defluxions of the head and throat, it may occasionally be of service, if used with moderation, especially in damp, cold, and hazy weather. Such persons, however, ought never to smoke immediately before or after a meal, as the saliva is essentially requisite to assist the digestion of the food. They ought to smoke slowly; frequently take small draughts of beer, tea, or other diluting liquors, but neither spirits nor wine. Lastly, they ought to use a clean pipe with a long tube; for the oil of tobacco, settling on the sides of the pipe, is one of the most acrimonious and hurtful substances, and would otherwise be absorbed, and mixed with the fluids of the body.

Of Cleanliness.

Among the means of extensive influence in the preservation of health, a strict attention to cleanliness is not to be considered as the least important. Uninterrupted perspiration is indispensable for the security of health; but it cannot long be maintained, without an uniform attention to cleanliness. The vapours which continually exhale through the pores, soon impregnate those parts of our apparel which come in contact with the skin, and this is a frequent cause of those cutaneous diseases which are often so troublesome and difficult of cure. Besides, these putrid vapours, adhering to the skin, are apt to be absorbed into the blood, and thus become the source of malignant fevers, and other fatal diseases. Personal cleanliness is not only an amiable virtue, but a source of much comfort and satisfaction to all who pretend to the least degree of politeness and delicacy. With the laudible view of freeing the skin from impurities, the practice of washing the body in cold or tepid water is highly to be commended. The usefulness of this mean of cleanliness is scarcely to be conceived by those who have not experienced its advantages; and those who have, would not be persuaded to relinquish the practice. Further observations relative to this subject will be found under the head of cold and warm bathing in the appendix to this work.

CHAPTER VIII.

OF CLOTHING.

In a climate so variable as that of the United States, both the nature and the texture of the materials which compose our dress, merit more particular consideration than in general is bestowed upon them. Numerous diseases are to be ascribed to the want of attention in accommodating our dress to the temperature of the climate, and to the various seasons and vicissitudes of the weather. It ought to be varied in point of thickness and warmth, according to the sudden changes in the atmosphere, which occur at different seasons. It is, however, not intended to inculcate a scrupulous nicety in changing the dress with the daily fluctuations of the weather, but the general precept, not to dispense with the winter dress too early in the spring, nor retain that of the summer till the approach of the boisterous season of autumn, should be most strictly regarded. Those who have a just conception of the baneful influence of intense cold, when applied to the skin, will duly appreciate the precaution above suggested.

The Dutch are so sensible of the importance of guarding the body against cold, that they wear more than double the quantity of clothing that is customary in this country, and it is said that catarrhs and consumptions are scarcely named in the catalogue of diseases among those people. The inhabitants of Canada are in the habit of wearing flannel next to their skins, and when exposed to the severity of the weather, they are wrapt in furs. Strangers who visit our country from abroad, have frequently expressed their astonishment at our thin dress, so very ill adapted to withstand the inclemency of the weather in this cold and variable climate; and they were at no loss to account for the coughs, catarrhs, and consumptions, so prevalent among our inhabitants. The mode of dress among our leaders in fashionable life, cannot but appear strikingly inadequate to the salutary purposes for which it is intended. It is not uncommon to see young gentlemen coming from a warm, close room, and exposing themselves

to the severity of cold easterly winds, storms, and night dews, with scarcely an additional garment. These votaries of courteous gallantry, it would seem, are more solicitous to display a handsome form, than to adopt the means which Providence has put into their power for the preservation of life and health. Nor is the imprudent conduct among the other sex less reprehensible, In preparing for an evening visit, it is common for ladies to retire from a warm parlor to a cold dressing-room, and, having changed a comfortable warm gown, for one of thin muslin with short wide sleeves, leaving the arms naked almost to the shoulders, and the neck and breast bare, or covered with thin lace, they walk through the streets with thin shoes, by which their feet are unavoidably wet and cold, and as the rules of politeness forbid their drying them in presence of company, they sit a considerable time in a shivering condition. At length, tea being served about, and the fund of anecdote and conversation exhausted, they retire from a warm, crowded room, through the cold and damp night air, and soon go shivering to bed. Who will be surprised that the consequences of such imprudent exposure, are catarrhal affections of the chest and lungs, with cough and hoarseness, eventually terminating in fatal consumptions? "Motives of delicacy, as well as regard for health, have been repeatedly urged in vain to enforce the necessity of relinquishing these destructive habits; the arguments of the moralist, and of the physician having alike failed to convey conviction; hundreds, who would now have shone forth among the loveliest of the sex, have been dressed in shrouds, because, in an evil hour, they laid aside those parts of their apparel which health, as well as decency, forbade them to relinquish." In Scotland, colds were extremely rare, and consumptions seldom met with, until the thick, warm, Scottish plaiding was relinquished for the thin English dress, when these disorders became extremely rife, and are now, perhaps even more frequent than in the other parts of the British Island. The feet and chest are the two parts of the body which are more especially liable to receive the ill impressions of cold, and communicate them to the rest, and these at least should be defended with the utmost care, by covering them with flannel or fleecy hosiery.

There is another custom introduced among young females, which ought to be noticed here for the express purpose of bestowing on it the severest reprehension. It is that of wearing iron

or other hard substance, called *corsets*, against the breast bone, with the view of improving their shape. Could they be made sensible of the folly, and absolute danger of thus compressing the vital parts, they would readily relinquish all claim to genteel appearance, rather than incur the hazard which might attend the use of corsets. Some instances of fatal accidents, attributed to this cause, have been already announced.

From a just consideration of these circumstances, the question may be readily solved, why consumptions have so greatly increased among our young people of late years.

The perfection of dress considered merely as such, consists in its being accommodated to the form of the body, without pressing or binding any part, Tight bandages about the neck are extremely detrimental. By impeding the circulation of the blood, they often produce head-ach, vertigo, and other more dangerous complaints, and when applied to the limbs, they prove injurious by hurting their growth, and occasioning lameness and many inconveniences.

The inquiry is often made, what is the covering most proper to be worn next the skin? The advantages and disadvantages of a flannel shirt, have received such ample consideration of late years, that little remains to be said on the subject, but to recommend the general employment of it, as one of the most useful articles of wearing apparel. Experience has so fully evinced the utility of covering the skin with flannel, that no person who has been habituated to its use in our damp and variable climate, can be persuaded to dispense with it at any season of the year. It may not, perhaps, seem advisable to recommend the use of flannel shirts, indiscriminately, to infants, and young healthy persons, but to those who have passed the meridian of life, to persons of cold and phlegmatic habits, to such as are subject to gout, rheumatism, colds, and catarrhs, and, in short, to valetudinarians of every description, this article of dress should be considered as an indispensable requisite.

Linen shirts, when worn a few days, are not only liable to excite a sensation of coolness, but to obstruct perspiration, which effect it produces in proportion to the thickness of its texture. Flannel, on account of the gentle friction which it occasions on the skin, produces a moderate warmth, and promotes perspiration, at the same time, on account of the porous nature of its substance, the

matter which it absorbs from the skin is easily evaporated. By its gentle stimulus on the skin, flannel has the beneficial effect of keeping the pores in a state the most favourable to a uniform perspiration, and when, by brisk exercise, the body is covered with the matter perspired, it passes off through flannel into the air, and the skin remains dry and warm. But during a profuse perspiration in linen shirts, the perspired matter, instead of being dispersed into the atmosphere, is retained by the linen, and not only clogs the pores, but excites a very disagreeable sensation of chilliness, often followed by a violent cold, and sometimes even fatal effects. As flannel, from its open texture is not liable to retain the moisture discharged from the skin, people who wear it, are far more secure from taking cold, on going into the open air during profuse perspiration, than those who wear linen shirts.

Prejudices have been excited against flannel, by some people imagining that it occasions weakness by too much increasing perspiration, but when it is considered that perspiration can seldom be immoderate as long as the skin remains dry, and that flannel tends to preserve it in this state, the objection will not appear to be founded in truth. It is granted that flannel, when first used, excites an unpleasant sensation, and the skin is apt to become red and inflamed, but this inconvenience is of short duration, and will be deemed a trivial objection by those who know its many advantages. Instead of producing cutaneous eruptions, as some have asserted, a flannel shirt, by preserving the pores open, and increasing perspiration, tends greatly to remove the cause of such affections. In short, there are no disadvantages attending the use of this valuable substance, except the wearer neglects to change it sufficiently often to prevent its becoming disagreeable by being soiled and dirty.

The practice of wearing flannel during the night, says Dr. Barlow, is not only unnecessary, but injurious. The object of using a flannel dress next the skin is to preserve a uniformity of temperature on the surface of the body, and thereby keep the highly important but too much neglected functions of the skin in an active and healthy condition. The body requires no extraordinary warmth during sleep; on the contrary, there is, at such times, even a tendency to an increase of the natural warmth. A flannel dress worn next the skin throughout the night, becomes so charged with perspiration, that its power of conducting heat is

thereby greatly increased, and its preservative effects proportionably diminished. By substituting a coarse calico for a flannel during the night, the body is kept in that temperature which fits it for encountering the vicissitudes of the following day, and the flannel, when resumed in the morning, will be in a state which contributes both to comfort and protection. The gratification derived from resuming a dry, comfortable flannel in the morning, together with the sensible increase of its utility during the day, will be found to compensate amply the slight unpleasantness attending the momentary exposure to cold while exchanging it the preceding night.

Such are the beneficial effects to be derived from the use of flannel, that it may be strongly recommended as a preservative of health; it is well suited to all seasons, and may often render a cumbrous upper dress unnecessary. As a remedy in diseases, a flannel shirt has been known to prove of great utility in gouty, and particularly in rheumatic habits, and in obstinate coughs, attended with symptoms of consumption. Upon the whole, this article of dress, considered both as a preservative and remedy of various diseases, merits a very general and extensive employment.*

It has become a fashion at the present day to wear a waistcoat of wash-leather over flannel; it is found to be an excellent protection against cold, and a remedy against attacks of rheumatic affection.

Cotton, is an intermediate substance between linen and wool; although it increases warmth and perspiration, it is far from being conducive to the preservation of health. A cotton shirt is very liable to imbibe and retain the matter of perspiration, and being accumulated in the form of a glutinous substance, obstructs the pores of the skin, and affords opportunity for the perspired humours to be taken again into the blood, to the great injury of health. Cotton stockings, for the same reason, are improper, and both linen, and silk stockings, have nothing but taste and fashion to recommend them. In fact, stockings made of wool, are greatly to be preferred to all others, on account of warmth, and their quality of promoting an uniform perspiration.

---

* "Those officers and soldiers who wore flannel waistcoats next to their skins not only escaped colds, but dysenteries, and other contagious disorders, while those that wore none were soon carried off by the diseases so commonly fatal in camps."

The old maxim of keeping the head cool, and the feet warm, is not to be regarded in its strict unqualified sense. The covering for the head like the other parts of the body, should be accommodated to the state of the weather. There can however be no disadvantage in general, in keeping it lightly and thinly covered, and in many instances of young persons, the natural covering may of itself be a sufficient protection in moderate weather; and indeed, those who accustom themselves to wear thick warm caps in common, render their heads unnaturally sensible to all changes of the atmosphere. There are, nevertheless, certain persons who suffer extreme inconvenience from the want of some moderately warm covering for the head: deafness, head-ach, and many other complaints, are, on some occasions, to be attributed to this cause. The best general rule therefore, is, to avoid the two extremes of great heat, or improper exposure to cold, and when experience evinces the necessity of it, some proper covering, as a cap or wig, ought to be adopted. In cold weather, it will be proper to cover the head at night with a cotton or flannel cap, in order to preserve that part in an uniform temperature with the rest of the body.

It is a point of great importance during a hot season, to have the head properly guarded against the intense vertical rays of the sun, as inflammation of the brain, and even fatal consequences, have been known to ensue from an exposure to their influence.—The common black hats, with very narrow brims, which are sanctioned by the present fashion, are evidently ill calculated to shield the head from the solar rays. White, or light coloured hats, as they have greater power of reflecting the heat, ought in summer to be preferred to black, and the brims should be lined with green silk, and sufficiently wide to protect the eyes and face.

The keeping the feet warm and dry, is to be considered as of the greatest importance, since numerous diseases owe their origin to a want of care and attention in this respect. In consequence of wet and cold feet, the blood is accumulated towards the head, a sensation of coldness over the whole body ensues, perspiration is obstructed, and not unfrequently a foundation is thus laid for incurable diseases. The feet, therefore, ought to be kept somewhat warmer than the rest of the body.

Having said thus much relative to the materials of our dress, it remains to be observed, that the quantity must be determined by personal experience, as no general rule can be prescribed that

will apply to every individual. It will, however, be found a most salutary precaution on all occasions, so to increase, or diminish, the outer garments, that the body may, as nearly as possible, be preserved in a natural and uniform temperature in all seasons of the year.

It may be useful to make one remark here in behalf of those who labour under the infirmities of old age. Warm clothing, more especially warm bed clothes, are indispensably necessary to preserve or increase the natural heat of old people. The late Dr. Chovet, of Philadelphia, who lived to be eighty-five, says Dr. Rush, slept in a baize night gown, under eight blankets, and a coverlet, in a stove room, many years before he died.

CHAPTER IX.

OF THE MEANS OF PRESERVING HEALTH, AND OF OBTAINING LONGEVITY.

The human species are continually obnoxious to the shafts of death in various forms. Innumerable dangers hang as by a hair over the destinies of man. To the sure ravages of age are superadded pestilence, casualties and disease as auxiliaries, to baffle the efforts of human wisdom, and accelerate the great work of mortality. Although tenacious of life and its enjoyments, man is accessory to his own premature dissolution. Unmindful of the laws of nature and morality, he yields himself a votary to licentiousness and vice, and plunges headlong down the precipice of destruction.

To impress the mind forcibly with a sense of the infinite wisdom of the great Author of our existence, we may contemplate the following among the various astonishing phenomena by which our being is pepertuated.

The heart, in a healthy person, contracts above three thousand times in an hour, and at each contraction, expels into the aorta or great artery, two ounces of blood, which, according to Baron Haller, is thrown with a velocity equal to one hundred and forty-nine feet in a minute, and overcomes the resistance of all the arteries in the body. Thus the quantity of blood equal to the whole mass contained in the body, passes through the heart fourteen times in an hour, which is about once every four minutes. This wonderful machine never ceases its alternate motion of contraction and relaxation, from the commencement to the termination of our existence. Its action is continued at the rate of one hundred thousand strokes every twenty-four hours, overcoming a great resistance at every stroke, and this without wear or derangement for eighty years together; nay, in some instances, the period is protracted to more than a century. And though the pulse become imperceptible and apparently extinguished, yet the heart still preserves its latent power, or susceptibility of motion, and needs only to be gently ex-

cited by suitable means to revive its action.* Such perpetual motion and friction as the heart sustains, would, in a short period, grind to atoms the hardest steel. No one, therefore, can be surprised that human life is as a shadow or a spider's web, and our continuance here extremely precarious. There is, nevertheless, implanted in the human breast, an unconquerable abhorrence of death, and a radical principle, by which we are attached to this mortal state, although we suffer pain, and sorrow, and all the infirmities of extreme old age, and the numerous calamities which afflict mankind. In a moral point of view, longevity must be estimated as an object of the utmost importance, as it carries man forward to a period when the violence of the most impetuous passions have subsided, and the temptations to irregular and dangerous inclinations can have little influence on the heart; when the affections of the soul are weaned from this transitory state, and a more favourable opportunity is afforded of preparing it for the enjoyment of the promised life everlasting. Since, by the constitution of our nature, we are solicitous of protracting the short span, it becomes both our duty and interest, to examine minutely into the various means by which health and length of days may be obtained.

It is first to be remarked, that longevity, in most instances, is to be ascribed to an hereditary disposition, or an innate principle, difficult to be explained, but which, like many family diseases, is propagated from one generation to another. Healthy, long lived parents, commonly transmit to their offspring the same inestimable inheritance, and it would be more frequently enjoyed, were it not for their own habitual irregularities, which so evidently tend to the abbreviation of human life.

A system of rules most essentially necessary to be observed, in order to preserve health and life, may be found in the observations

* It is recorded of Vesalius, a celebrated professor of anatomy, and physician to Charles 5th, about the middle of the 16th century, that a Spanish nobleman who had been his patient, was supposed to have expired. Dissections were at that time deemed unlawful and even impious. Vesalius, however, had the address to obtain leave to inspect the body, with the laudable view of ascertaining the nature of the disease. On opening the thorax, he was astonished to perceive symptoms of life, and even to recognize the pulsatory motion of the heart. Vesalius was not only prosecuted for murder, but, that he might be punished with greater rigour, was arraigned before the Inquisition for the crime of impiety. The king, however, interposed, and saved his valuable life, on condition of his making a pilgrimage to the Holy Land.

contained in the preceding chapters, on the six nonnaturals, as they are termed, and these have been so amply examined and detailed, that little remains to be added, though it may be useful and proper to recapitulate a few particulars.

It will be found, in many instances, altogether impracticable to conform rigidly to all the salutary rules above referred to, but it may be remarked, that a temperate climate, moderate exercise, pure country air, clothing adapted to the season and vicissitudes of weather, a strict regard to temperance, together with a prudent regulation of the passions, will prove the most efficacious in protracting life to its utmost limits. All extremes should be avoided, as unfriendly to health and longevity. Excessive heat enervates the body; extreme cold renders it torpid: indolence and inactivity tend to clog the necessary movements of the machine, and incessant labour soon wears down the springs of life. Another essential circumstance to be regarded by those who are candidates for long life, is the choice of a particular situation for residence; it should be elevated and dry, open to a free ventilation by the winds, at a proper distance from low swampy ground, or stagnant waters, and where a dry and salubrious air can be enjoyed, and if near the sea shore, the situation will probably be still more healthful.

The most efficacious means of preventing diseases, and prolonging life, are those most nearly connected with the moral virtues. A course of licentiousness, intemperance, and voluptuousness, has a direct tendency to undermine the constitution, to generate diseases, and to shorten the duration of life. The habitual indulgence of a lascivious disposition, and a promiscuous sexual intercourse, especially in persons not arrived at the age of maturity, seldom fail to exhaust the vital energy, to enervate the system, and lay a foundation for imbecility, and numerous diseases.

The absurd idea was in former times prevalent, that blood-letting, at certain seasons, is useful and necessary to the prolongation of human life. It was even supposed by many that the impurities of the blood may be drawn off, and the remainder of the mass thereby rendered more pure; but this ridiculous fancy finds no countenance in modern times: on the contrary, it is a well established principle, that blood-letting is never requisite, but often detrimental, to those who are in health. Experience has long since determined the fact, that persons habituated to the loss of blood

from the system at certain seasons, cannot relinquish the practice without incurring danger of the most serious consequences.

The plain diet, and the employments of a country life, are highly conducive to health and longevity; while the luxury and refinements of large cities, are equally destructive to the human species. In proof of this assertion, let the comparison be made between the sedentary, and delicate youths, of both sexes, in populous seaport towns, and the athletic, robust labourers, who spend their days on farms in the country, and are constantly active in walking, riding, and other exercise so essentially necessary to expand the chest, to strengthen the lungs, and invigorate the system. Much depends on wholesome diet for the preservation of health, and consequently for the attainment of long life. It is, however, not absolutely necessary to conform strictly to certain rules and forms in this article. A proper mixture of animal and vegetable food, appears to be the best calculated to subserve the purposes of nature, and in general the most congenial to the human constitution. Such, however, is the diversity of constitutions, and such the influence of custom and habit, that the same mode of living, which in one individual, is happily adapted, would in another prove extremely detrimental.

The nauseous and disgusting practice of chewing or smoking tobacco, is in many constitutions productive of unfavourable consequences; it is particularly prejudicial to persons of weak digestion, or delicate habits, and to those who are predisposed to consumptive complaints. In every instance, where the use of tobacco produces an uncommon discharge of saliva, (that fluid so necessary in the process of digestion,) its narcotic effects are more powerfully exerted, by which the tone of the stomach is weakened, and every kind of dyspeptic symptoms are produced.

It appears, from observation founded on experience, that if we can pass a certain period of life in the fulness of health and vigour, the probability is greatly in favour of living to a considerable age. This critical period is supposed to be in most constitutions, about the 63d year, and it is a just observation, that the human constitution begins at that time, if not sooner, to experience a rapid decay of strength and energy.

The habit of early rising from bed, daily exercise, or moderate labour, are among the salutary means to be recommended for the preservation of health, and the prolonging of life. It has been as-

serted, that in every instance of remarkable longevity, the person had been from his youth accustomed to early rising. Uniformity in the state of the atmosphere, particularly in regard to heat and cold, the avoidance of close hot rooms, the keeping the feet warm and dry, contribute in a considerable degree to the enjoyment of health, and the duration of life. These, with moderation in every thing that relates to both body and mind, a rigid adherence to the habits of virtue, and in every vicissitude to endeavour as much as possible to preserve a calm and tranquil state of mind, constitute the means of greatest efficacy for the attainment of that healthy condition which is the most favourable to a happy longevity.

CHAPTER X.

ON THE CHARACTER, QUALIFICATIONS, AND DUTIES OF A PHYSICIAN.

THE duties and responsibility attached to the office of a medical practitioner, are in their nature peculiarly interesting and important. A physician may be estimated as an invaluable blessing, or execrated as a curse to the community, as he alleviates, by his judgment and skill, the calamities of mankind, or by his ignorance and rashness, inflicts incalculable misery and sorrow. Having in his hands a weapon of immense power, it is incumbent on him to wield it with the utmost judgment and discretion; as a single erroneous application may terminate the awful fate of the patient consigned to his charge. The man, therefore, who maintains this important station in society, should possess the strictest integrity of character. Disinterested benevolence and philanthropy should be interwoven in the constitution of his nature. He should possess that modesty, and humanity, which melts at every distress, extending the hand of relief and comfort to the afflicted, especially to "the widow, to the fatherless, and to him that hath none to help him." He should devote no less attention to the bed of helpless, pinching penury, than to the sickly couch of wealth and luxury, and mingle a sympathizing tear with those, whether rich or poor, who are called to shed the tears of inconsolable sorrow. Whilst manifesting an ardent zeal and solicitude for the welfare of his patients, and devoting all the energy of his soul to their service and comfort, he is not to be actuated by the sordid motive of acquiring fame or emolument; but by the irresistible dictates of that tenderness and sympathy, which have their origin in the best feelings of the heart. To these meritorious qualities, should be added, an acute, penetrating genius, a retentive memory, intuitive discernment, and an intrepid and decided disposition of mind.

The character here pourtrayed, it must be confessed, is of no ordinary cast, nor is it frequently exemplified; but such was the great Hippocrates; such was the pious and sagacious Sydenham;

such the illustrious and learned Boerhaave and Cullen; and no less deserving the applause of mankind, were those luminaries of American medicine, Rush, Miller, Warren, and Barton, the pride and ornaments of our own age and country. They have left behind them memorials which can never be forgotten; and such are the models which it becomes us, their followers, to study and to imitate. Every physician should be distinguished for his professional knowledge and attainments, recollecting that literary diligence, when accompanied with original genius, is the parent of all that is great and valuable in science, and that even men of tolerable capacities may, with proper application and industry, produce valuable acquisitions, and render themselves conspicuously useful. To excel in the profession of medicine, and to practise with success and reputation, requires indefatigable industry, and a vast variety of liberal accomplishments, as well as an understanding improved by knowledge and experience.

A minute detail of the various branches which comprise a reguler medical education at the present day, is not here requisite. The systems adopted at our several seminaries, are unquestionably the most judicious and eligible, and they will be found fully adequate to the purposes required. No one, in future, can have the smallest claim to confidence as a physician, unless he has availed himself of the advantages so amply provided, and so liberally proffered. But, having pursued the course prescribed, and obtained the usual honours of a license, or a diploma at some university, he at once becomes a candidate of regular standing in the pale of medicine, and merits the respectful notice and confidence of the community. The first objects of attention are, Anatomy and Physiology, without a thorough knowledge of which, no person can be qualified for practice. Surgery, the Theory and Practice of Medicine, Chemistry, Pharmacy, and Clinical Medicine, are well known to be indispensable acquirements. Medical botany, and other branches of natural history, are also to be considered as valuable auxiliaries, and fraught with permanent utility in a professional view. Our country is provided with a rich abundance of medicinal plants, and medical men are invited to the pleasing task of investigating their properties and uses. We may anticipate, at no very distant period, when our Materia Medica will be copiously furnished in America, from the three kingdoms of nature. And it should be considered disreputable for physicians to trample

under foot, or pass unregarded, many of the most valuable productions of our soil, so bountifully bestowed by kind Providence, as remedies for the diseases with which we are afflicted.

The young physician should direct his particular attention to every circumstance, which relates to the causes, nature and cure of diseases. He should, especially, exert his endeavours to acquire an accurate knowledge of those, which are peculiar to the climate in which he resides, and of such as are usually prevalent at certain seasons, as every climate has a tendency to produce particular diseases, either from its excess of heat, or cold, or from other causes not perfectly comprehended. Contagious and epidemic diseases should occupy a large share of the physician's attention, and, when these are prevalent, it will be incumbent on him to apprize the people of their danger, and to adopt, or recommend the most effectual method to prevent a more extensive communication of the disease. Proper regulations respecting the articles of diet, air, cleanliness, and tranquillity of mind, should in all cases be enjoined, as of primary importance; without a due observance of which, the most judicious plans of medicine may be, and often are, frustrated. These means of comfort and safety are in the power of all, and the faculty are bound in duty to enforce that prompt attention to them, which their well known usefulness and importance demand.

A physician, on the commencement of his functions, should not allow his mind to be enslaved by systems, nor to imbibe a bigoted attachment to great names, as there is no absolute perfection in systems, nor infallibility in the wisdom of man. He is not to be implicitly guided by the doctrines, nor the practice of others, however eminent, but establish a course of practice, the result of actual facts, founded on knowledge, and repeated experience and observation. In the exercise of practical duties, the young physician will display a commendable candour and condescension, associating the moral virtues with professional duties. He will avoid all appearance of vanity and ostentation, manifesting, however, a modest confidence in his own merit, that he may command the confidence of others; for nothing can be more irksome to a man of feeling than to discover a want of confidence in his judgment, and a ready acquiescence in his medical prescriptions. In these he will endeavour to combine simplicity with elegance, as far as may be consistent with the requirements of the particular

case; rejecting the absurd idea, that a farrago, of thirty or forty simples in one prescription, may retain, and exert their separate virtues. He will confide in a few selected articles, judiciously adapted, that the indications may be answered by as few medicines as possible; studiously avoiding that pompous parade, so peculiarly characteristic of the quack, and so disgusting to every intelligent observer. It is requisite that a physician should have an absolute command over his patients; so far, at least, as to prevent any deviation from his rules and prescriptions, which ought, however, in no instance, to be unnecessarily rigid and minute. Every measure of opposition tending to fetter the hands, or embarrass the mind of the attentive physician, would be almost unpardonable. It will often be justifiable, and even necessary, to conceal the name, and to reduce the medicine to a disguised form, as invincible prejudices are frequently imbibed against certain remedies, which no reasoning can overcome, and a medicine covered with the veil of obscurity, is always more valued than one openly and clearly explained. The frequency of the physician's visits should, in every case, be regulated by his own sense of duty; his honour and delicacy being a sufficient pledge that they will not be unnecessarily multiplied and expensive. In the chamber of the sick, no possible attention should be deemed superfluous; all the powers of his mind must be absorbed in the investigation of the case, nor should he permit the minutest circumstance to escape his observation. A superficial, or cursory view of the patient, and a slight examination of the symptoms, will never satisfy the inquisitive and intelligent physician, nor inspire confidence in his skill and judgment. He should be systematic in his examination and inquiries, recollecting that external appearances are often fallacious, and that many diseases exhibit symptoms similar and common to other diseases of a different nature. The expressive countenance, the pulse, the tongue, respiration, perspiration, aud all the secretions and excretions, with numerous other particulars in connexion, must come into a critical review, in order to ascertain the character of the disease, and the indications of cure. It is of consequence to recollect that the presence of the physician seldom fails to excite a temporary perturbation, and, until this subside, and the mind recovers its calmness and tranquillity, no correct indication can be inferred from the state of the pulse; a careful, and repeated examination of which, will often be found of considerable importance.

Instances may occur to the young physician, in which a respectable and valuable member of society, perhaps the head of a family, or the only child of doting parents, affected with a fatal disease, may be confided to his care. While life and death are poising on a delicate and acute point, all the energies of his mind will be called into exercise, and the keenest anxiety and solicitude will await him in the discharge of his official duty. Here is an opportunity to display that sympathy, and anxious attention, which engage the affections and confidence of the patient, and, in many instances, are of the utmost importance to his recovery. When a patient can enjoy the inexpressible comfort of recognizing, in his physician, a kind and tender friend, his visits will be anticipated and welcomed, as those of a guardian angel ministering to his relief; while he who is callous to the sentiments of humanity and sympathy, unfeeling, rough and blustering in his manners, will appear to the patient, like the messenger who comes to pronounce his awful doom. In the interesting exigency above suggested, the young physician will probably be disposed to acquit himself of a share of his responsibility, by having recourse to the counsel of some one of his more experienced professional brethren, in whose honour and integrity he can repose confidence. By this he will relieve his own mind, and increase the confidence and esteem of the patient and friends. He must not forsake the chamber of his patient, knowing that his presence is a constant source of consolation, and though he may be unable to cure, he may soothe, mitigate, and relieve. He must not entrust the administration of medicine to unfaithful hands, but himself be the accurate observer of every effort of enfeebled nature, and the effect of every medicine prescribed. The balm of hope, which buoys the mind above despair, must never be abandoned or withheld, and the prognostic, when required, should be peculiarly cautious and guarded.* The signs of approaching death are often extremely fallacious, and when it is absolutely impracticable to ascertain the precise moment of despair, the conscientious physician will not yield his hope, until life shall have spun out its last attenuated thread. In-

* "As far as regards the feelings of friends, the prognosis is a point always deserving of the most serious consideration on the part of the practitioner; and I may add that it is also of the utmost importance to himself, for I never knew a medical man retain his popularity long, who was unguarded in the delivery of his prognosis."

Armstrong on Fevers.

stances have sometimes occurred of wonderful recoveries after the physician had discontinued his attendance, from the belief that the agonies of expiring nature had actually commenced. It has been alleged, that, in all cases of doubtful, or obviously hazardous event, the danger ought to be carefully concealed from the patient and friends, as the slightest mental exertion, during the state of disease and debility, might precipitate the fatal termination. Such indeed, is the incomprehensible union, and secret influence of the faculties of the soul, over those of the body, that a fatal prognostic might have a considerable share in its own fulfilment. Occasions may, nevertheless, occur, in which a cautious disclosure of the impending event, will, both in a moral and religious point of view, be deemed highly expedient and proper. As the future peace and happiness of a family may depend on the arrangement of a patient's worldly affairs, it may be necessary to suggest, in the most prudent manner, the real danger, that this important duty may not be neglected. To a man of sensibility, this is one of the most painful duties which he can be called to perform, but it is often indispensable, and requires great prudence, tenderness, and humanity. It is undoubtedly necessary, in certain cases, to intimate the real danger to the relations of the patient, that opportunity may be afforded for calling in further medical assistance if they should deem it proper; nor is it to be considered foreign to the office of a physician, to suggest to his patient the propriety of an interview with a pious clergyman, that he may administer the consolations of that religion so admirably calculated to compose the anguish of the mind, by encouraging a hope beyond the grave.

Among the virtues peculiarly required in the character of a physician, are those of temperance, sobriety, and probity. Temperance is the only panacea known in medicine; and the professors of health should enforce their instructions of temperance, by the eloquence of example. Of all the disgustful objects ever admitted into a sick chamber, a *drunken physician* is incomparably the most odious, and he who sustains this character, ought never to receive the least countenance in the line of his profession, but be treated with the utmost neglect and contempt.

Consultations.

Medical consultations are on many occasions, when judiciously and harmoniously conducted, extremely important both to the pa-

tient and the attending physician. In all cases of a doubtful or dangerous nature, where the physician cannot place sufficient dependence upon his own judgment, or where he finds that it would be a satisfaction to the patient or his friends, the counsel of one or more skilful physicians should be requested. A mutual agreement should always regulate the choice of the consulting physicians, who should in every instance be distinguished for sound judgment, great experience, and respectability of character. Let the patient or friends propose a certain number agreeable to them, and from these the physician is to make his choice. In the investigation of the patient's case, the consulting physician will examine all the symptoms, and make the necessary inquiries of the attending physician, who should withhold no information which can tend in the smallest degree to facilitate a correct judgment of the disease in question. No questions should be asked excepting such as are absolutely necessary to explain the nature of the case to the consulting physician, and technical terms ought to be as much as possible avoided, as they may confuse the patient and lead him to suppose his case worse than it oftentimes is in reality. The consulting physician will be guarded in his answers to such questions as may be asked by the patient or friends, referring them to the attending physician. The examination being finished, the physicians will retire into a room by themselves. The attending physician then describes in a clear and concise manner all the circumstances relating to the case and his own method of treatment, and the opinion and prognosis which he has formed. The consulting physician next gives his opinion, and they decide upon the most proper manner of treatment to be pursued. In doing this, courtesy and due deference to each other's opinions must always be observed. If the plan hitherto pursued is deemed the most beneficial, it is not to be changed, but if by long pursuance, or otherwise, it be considered inefficacious or inapplicable, a different method must be agreed upon. Should there be a difference in opinion, if very essential, and but two physicians, a third should be called to decide as to the the most proper method to be pursued. The result of the consultation is to be communicated to the patient or friends by the attending physician, and if requested, another meeting is then to be appointed. In the consultations of physicians much propriety of conduct is requsite, no prejudice, jealousies, or other unworthy selfish views, should be permitted to influ-

ence their minds; but candour and mutual respect should preside over their deliberations, making it their only solicitude, to devise such remedies as will most effectually contribute to the patient's recovery. Should debates or conflicting opinions exist, these should be strictly confidential, and not disclosed to the patient, to wrest from him the last ground of hope and consolation. Every endeavour should be practiced to inspire him with confidence in his physician, and the plan of treatment adopted. The attending physician should consider himself bound in duty and honour, rigidly to adhere to the mode of treatment agreed upon, that the patient may realize all the advantage which can be derived from their united skill and experience.

It may be remarked that professional consultations are not on all occasions so conducted as to be productive of beneficial effects; and serious embarrassments too often attend an officious interference with the duties of the attending physician. It divides the weight of responsibility, and weakens a powerful motive of perseverance and decisive exertion. It sometimes interrupts a systematic course judiciously adapted, and may result in a feeble, neutralized, inefficient practice, by no means adequate to the removal of the disease. From the discordant interview of physicians who are not in the habit of social and friendly intercourse, and where mutual confidence does not exist, no satisfactory, but very serious consequences may be expected. Motives of rivalship, and popularity may supersede all regard for the real welfare of the patient, and the contending physicians may expose themselves and the profession to contempt and ridicule. Surely no advantage can be derived to the patient, from the wranglings and disagreements of those who are rivals in interest and fame, and who are hostile to each other in their views and personal feelings. Such scenes can only serve to distract and confuse the mind of the patient, already debilitated by sickness, and broken down by disease. Neither is it consistent with propriety, to associate a young inexperienced practitioner in consultation with one, who, from age and experience, must be acknowledged to possess superior advantages. It would be absurd, and unjust, to expect that the senior, tenacious of his own superiority, will yield his mature judgment and opinion to one who ought to look up to him with deference and respect. Another point of exceptionable conduct which ought to be reprobated in strong terms, is that, when persons receive the advice of other physicians incidentally, in the absence, and without the knowledge of the at-

tending one, and even conceal from him the medicine administered. It is difficult to convey an adequate sense of the impropriety and dangerous tendency of such irregular proceeding; it is no less preposterous, than to require an artist to repair the machinery of a watch, while another is continually deranging its springs and movements. Beside, the diversity of opinion in such cases can only serve to embarrass and perplex the patient, and to generate animosities and jealousies among the gentlemen of the faculty. No one can wish to control the right which every person may claim to employ the physician of his choice, or any number he may think proper, but let it be remembered, that physicians too have their rights, and their peculiar sensibilities, and there is on all occasions a suitable respect and delicacy of conduct to be observed in reference to the feelings of the physician employed. Since all consultations have for their sole object, the advantage and welfare of the patient, it must be apparent that it is both his duty, and for his interest, to encourage such harmonious interviews only, as will most probably effectuate that result, and since physicians themselves possess the best means of information respecting the skill, the honour and probity of their brethren, it is proper the attending physician should be gratified in the choice of a gentleman for consultation. He should never be required to consult with those who are personally enemies to him,—nor to demean his own character, or that of the profession, so much as to consult with quacks or empirics, with men not regularly educated in the profession, who constantly endeavour by all the little arts and pitiful meanness, to lessen the confidence of the patient in his physician.—With such, it would be derogatory to his character to consult; and if a fair understanding, and concurrence cannot be obtained, the proposed consultation had better be dispensed with.

It is among the judicious regulations of the Mass. Med. Society, that no fellow thereof, shall advise or consult with any person, who shall hereafter commence the practice of medicine, without having been examined and approbated, or shall have received a medical degree, or otherwise shall have produced such testimonials of his qualifications for practice, as may be deemed sufficient to entitle him to the privileges of a physician regularly introduced.* The reciprocal duties, and civilities, due from individual members of the medical fraternity to each other, ought to be held in high

* See page 42.

respect, as a cement of friendly and harmonious intercourse. The principles of honour should be the invariable guide of their actions, disclaiming all artifice and insinuations tending to produce jealousy, interference and collision, in professional pursuits. It is chiefly among those of ordinary education and deficient qualifications for practice, that is found a dishonourable, and ungentlemanly conduct, which so often proves the source of animosities and contentions to the discredit of the medical profession. Conscious of their want of merit to entitle them to the respect and consideration of the community, they resort to artifice, and base insinuations, with the hope of procuring employment. The regular physician will scrupulously avoid, as inconsistent with the character of a gentleman, all interference with the patients of other, and every officious inquiry, or intimation tending in any degree to weaken the confidence in their medical attendant. If requested to visit the patient of another, he will, in honour, decline any examination or advice, (except in cases requiring immediate assistance,) until the gentleman previously attending can be called to act in concurrence with him. And if requested to assume the charge of the patient of another, he will conduct with that commendable delicacy and candour, which, under similar circumstances, he would require and expect to receive from a professional brother.

When we consider the great expense, and the time, requisite to acquire a complete medical education, and to form the character of a physician worthy the great trust reposed in him by all ranks of society; when we reflect on his high responsibility, and the painful solicitude of mind for the fate of his patients; and lastly, the frequent exposure of his own health and life, while devoting himself to the services of others, it must be conceded, that no class of people can have a stronger claim to the respectful regards, and grateful remuneration of their employers. Every young practitioner, however, must calculate, in the line of his profession, to be subjected to the severest trials, not only of his skill and abilities, but of his patience and constancy. He will, on some occasions, be called to encounter the whims and caprice of his patients and friends. Their wonted confidence will sometimes be withdrawn; and his best services requited with contumely and ingratitude. The caprice of the sick may receive indulgence, when no evil consequences can result from it; but his address and forbearance should be marked with that commendable inde-

pendence and firmness, which will neither sully his own character, nor wound the dignity of his profession.

The employment of a skilful and faithful nurse is of more importance than is generally imagined. A nurse ought to possess the qualities of fidelity, patience, industry, sobriety, and cleanliness; ready at all times to receive instruction from the physician, and strictly obedient to his directions relative to the administration of medicine. It should be required of the nurse to attend with particular care to the symptoms of the patient, and to the effects produced by the medicine, that the physician may daily receive the most correct information. On no pretence whatever, should the nurse be permitted to deviate from the prescribed rules; or administer other medicines than those directed by the attending physician; which has too often been practised, to the great detriment and danger of the sick. There is, in many places, a pernicious custom of visitors crowding the houses and even the apartments of the sick. During the most afflictive scenes, when the mind is overwhelmed with anguish, and all concerned are affected with despair and sorrow, we have witnessed persons of all descriptions, intruding their unwelcome presence, although incapable, or not disposed to bestow the least share of sympathy or assistance. Nothing can tend more to derange the debilitated mind, and to interrupt the various duties to be performed. Physicians of delicacy have experienced the perplexities and embarrassments attending this indecorous practice, and have been compelled to quit the chamber of the patient, without ascertaining some particular circumstances connected with the disease. The breath from every mouth contributes to the greater impurity of the air in a sick chamber, and frequently renders diseases more malignant and infectious. This absurd practice, so injurious to the sick, and hazardous to those in health, ought to meet the most pointed reprehension of physicians, and all concerned, until it be altogether abolished. Friendly and charitable visits may be admitted in a separate apartment; but intruders, from idle curiosity, should be most strictly prohibited, that the miserable sufferer in languishing despair, may enjoy at least the comforts of retirement, stillness, and composure. In cases of putrid and infectious diseases, no person, the necessary attendants excepted, should be permitted to sit in the room with the patient.

The young practitioner will derive much benefit from a methodical record of all important cases that occur in practice. If he describe with accuracy the disease, with the attending symptoms and mode of treatment, whether successful or otherwise, adverting with particular care to the operation of each medicine, and compare their effects in different constitutions, and in the same individual, at different times, such record will furnish a document of much utility in facilitating his own improvement in practical knowledge. The history of every case, which may be deemed of utility to the medical public, ought to be communicated through the medium of some society or periodical publication; and all learned societies and vehicles of medical facts, should receive the cordial encouragement and support of every established physician; that he may both contribute his share to the interest of medical science, and keep pace with the rapid improvements which new discoveries are constantly introducing into practice.

Among the numerous subjects, which demand the particular attention of the junior physician, medical botany, and a thorough investigation of our indigenous productions are not the least important. Various articles of this description will be found to possess properties, surpassing in efficacy, many foreign drugs, that have received the sanction of ages. Were physicians to cultivate, as extensively as practicable, medical plants on their own soil, and preserve them with their own hands, they would know when to rely on the purity of the medicine they prescribe, and to economize in the expenditure of foreign drugs.

It is to be recommended as peculiarly important to medical practitioners to possess themselves of well chosen libraries. A social medical library would prove a bond of union among physicians, and render the acquisition of knowledge cheap and easy to the proprietors. The modern works of real merit in the various branches of medicine, with the periodical publications of our country, will be found of the greatest utility, as the only sources from which can be obtained a knowledge of the important discoveries and improvements which are so frequently made in the healing art.

Among the objects worthy the attention of district associations, is that of regulating the professional fees; that a uniformity in that respect may generally prevail, and that the pecuniary compensation may be adequate to the services performed; as it is both allowable and laudable to support our professional pretensions to

honourable subsistence by honourable means. Every individual should pledge himself in honour to adhere to the rules that may be adopted, and any deviation from, or evasion of the same, should be considered as meriting indignation and contempt. It is a practice, sanctioned by custom, to discriminate between the wealthy citizen, and the more indigent class of people, in regard to the amount of compensation required; nor is it to be considered as departing from strict justice, to demand of the rich, a more generous fee, while we extend to the poor a charitable beneficence. Every physician will, in the line of his professsion, frequently meet with indigent objects, requiring medical assistance, and no one of humane and benevolent feelings will deny them relief and comfort to the extent of his power, believing with the great Dr. Boerhaave, that the poor are our best patients because God is their paymaster. The families of clergymen, and those of the medical profession, are usually exempted from charges for medical attendance. Such of that character, however, who may be in wealthy circumstances, will scarcely expect gratuitous attendance, when required for a considerable time, or when visits are made from a distance. It must appear reasonable that an extraordinary fee be demanded for the exposure of health, when called to travel in the night, or in storms and inclement weather. A more liberal compensation should be exacted for attendance in cases of malignant diseases, than in ordinary cases of fever. The skilful and accomplished surgeon will no doubt require a more ample fee for a capital operation, than a dentist for extracting a tooth, though both may be performed in an equal space of time. A physician is justly entitled to a reward for his advice when called in consultation, and the amount of his fee ought to be determined, by the greater or less importance of the occasion, and the station and condition in life of the patient. Practitioners of the obstetric art in the country, seldom realize an adequate remuneration for their arduous and unpleasant services. From the liability to calls, at all seasons, and the great variety of untoward circumstances, which frequently attend that branch of practice, it must appear reasonable and proper, that a generous fee should be required, and varied according to particular cases that may occur, as, on some occasions, four times the amount of the customary fee would scarcely be deemed an adequate compensation. It remains to inculcate the importance of improving every opportunity of opening the bodies of the dead

for examination. This is a source from which the most essential improvement, relative to the structure of our complicated machine, may be derived, and will, moreover, lead to a discovery of the nature and seat of such diseases as elude all other means of investigation. Much is due to the medical faculty, and to the enlightened inhabitants of our metropolis, that the practice of examining the bodies of victims to disease, has become familiar to every mind, and is no longer viewed as derogatory to that sense of sacred regard implanted in our nature for the relics of deceased relatives.

The condition of physicians in society is conspicuous, honourable and dignified, and their responsibility consists, not only in the faithful discharge of their immediate practical duties, but also in vieing with each other in the promotion of social intercourse and professional urbanity; in directing all their efforts to give respectability and order to the practice of medicine, and to discountenance the vile practice of unprincipled and assuming pretenders; in contributing all in their power, to perfect the healing art, and disseminate its blessings to the community. It should be the pride and ambition of our young medical men, to maintain the respectability of their professional character. Let them reflect on their high responsibility, and that they are answerable to a Supreme Power, for every capital error, resulting from ignorance, neglect, or inattion. Let them cultivate, with the greatest assiduity, the talents with which they are endowed, and a disposition to manifest their benevolence and sympathy, by consulting the comfort, interest and feelings of their afflicted patients, and administering with tender solicitude and a liberal hand, the healing balm of hope and consolation. Thus the miseries of man may often be lessened, and the groans of suffering humanity happily allayed. It may appear improper to close this subject, illustrating the office and duties of a physician, without some observations relative to his character as a believer in the sublime and sacred system of christianity. It is recorded for our imitation, that some of the most eminent physicians, both in Europe and America, were ornaments of the christian profession, and distinguished for their zeal and piety. It would seem impossible to contemplate the mechanism exhibited in the formation of the human frame, without associating the most exalted sentiments of piety. Our existence is indeed a continued miracle; capable of being sustained only by the hand of that Omnipotent Being, whom we adore, as "the former of our bodies, and the

father of our spirits." From the striking proofs of divine wisdom, and benevolence, displayed in the animal structure, may be derived arguments, not only the most numerous, but the most clear and decisive, and the best calculated to confirm the sentiments of rational piety, and to induce habits of active religion and virtue. Hence, even "atheistical persons, obdurate to every other evidence of the existence of a God, who created the universe, have, on witnessing a dissection, been instantly convinced of their mistake, and have acknowledged with equal astonishment, and shame, that nothing less than a Being of infinite wisdom, and power, could have contrived, and executed, such a wonderful piece of mechanism, as that of the human body." In more than one sense, the judicious poet is correct when he asserts, that,

"The proper study of mankind is man."

Those, however, of cultivated understandings, and minds enlarged by the exalted principles of religion, will not readily yield themselves bigots to any particular sect, or religious system; but exercise christian charity, piety, brotherly love and universal goodness, without wishing to offend others, who may differ from them.

"The study of medicine," says the amiable Dr. Gregory, "of all others, should be the least suspected of leading to impiety. An intimate acquaintance with the works of nature, raises the mind to the most sublime conceptions of the Supreme Being, and at the same time, dilates the heart with the most pleasing views of Providence. There are besides, some peculiar circumstances in the profession of a physician, which should naturally dispose him to look beyond the present scene of things; and engage his heart on the side of religion. He has many opportunities of seeing people once the gay and the happy, sunk in deep distress; sometimes devoted to a painful and lingering death; and sometimes struggling with the tortures of a distracted mind. Such afflictive scenes, one would imagine, might soften any heart, not dead to every feeling of humanity, and make it reverence that religion which alone can support the soul in the most complicated distress; that religion which teaches to enjoy life with cheerfulness, and to resign it with dignity."

The noble and disinterested sentiments of the venerable Sydenham, as expressed in the following language, are worthy of being adopted by every physician. "Upon deliberate reflection, I find it better to assist mankind than to be commended by them, and

more highly conducive to tranquillity of mind; popular applause being lighter than a feather, or a bubble, and less substantial than a dream. I have always thought it a greater happiness to discover a certain method of curing even the slightest diseases, than to accumulate the largest fortune. For can a person give a stronger proof of his benevolence and wisdom, than by endeavouring always to promote the public good, rather than his private interest, as he makes so small a part of the whole? I am determined to give myself little concern for the failings of others, being convinced that all that is incumbent on me is, to act like an honest man, and discharge the office of a good physician to the best of my abilities."

It may be recommended to young gentlemen, who are about to commence the practice of medicine, to peruse the excellent aphoristical instructions of the late professor Rush, in the first volume of his *Medical Observations*. It is by such authorities as those just recited, that dignity and excellence, are imparted to a profession, to which in all ages honour has been paid, and to which, when religiously and conscientiously exercised, universal favour and gratitude are due.

CHAPTER XI.

OF EMPIRICISM, QUACKERY, AND PATENT MEDICINES.

HAVING designated the character and qualifications of the scientific physician, I am now to examine the pretensions of those ignorant and unprincipled empirics, who set at defiance all learning and every virtuous pursuit; practice the vilest arts and deceptions, and sport with the health and lives of their fellow mortals with impunity. Every country and age, is infected with these insidious foes to the science of medicine, who attempt to despoil it of its dignity and usefulness, and prostrate its character in the dust. They endeavour to make themselves conspicuous by the shameless audacity with which they slander, and seek to disparage the merit, and services of those who sustain the fairest reputation, and are entitled to confidence and respect; proclaiming at the same time their own pretended worth and superiority. Impostors of this description, too frequently receive attention, and encouragement from the heedless multitude, who delight in the marvellous, and willingly yield themselves slaves and dupes to the grossest folly and absurdities. Hence we hear of new prophets, and mystical fanatics, who suddenly appear, announce their pretended divine mission, and feed their credulous patients with bubbles and magical drugs.* Hence too the herd of young men, who without learning their alphabet in medicine, are expeditiously "popped into the world" after a few months study, assuming the character of *full grown doctors*, and courting the attention due to men of the most

---

* A few years since, a man in the state of Vermont, proclaimed himself a prophet, and pretended to cure all diseases by prayer to Heaven, requiring no other information relative to the patient, than a few lines from his hand. So great was the credulity, and so strong the faith of the multitude, that letters, and messengers were despatched to him from the sick, the blind, and the crippled, from the distance of several hundreds of miles, until thousands had accumulated on his hands which he could not find time to read. No cures however, were performed, a d the deluded people, we trust, were at length led to reflect that the prayers of the wicked are an abomination, and were induced to prefer their own petitions, offered in sincerity of heart.

finished erudition. It is notorious, that the contemptible ignoramus, the foreign renegado, and mechanic labourer, have been raised by the voice of popularity, above the level of the learned and experienced physician. Although addicted to habitual intemperance and base falsehood, and devoid of every principle of honour, and moral rectitude, yet they find means to pursue their destructive course, and escape that condign punishment which their crimes so justly merit. It is astonishing to conceive, with what avidity many ignorant, and credulous persons, receive and propagate unfounded rumours in support of these deceptious wretches. It is among their ingenious tricks to blazon forth exaggerated accounts, of the most trivial circumstances, in their favour, as examples of skill exceeding that of all regular practitioners. If people die in their hands, they audaciously assert, that they were called in too late, and through the erroneous practice of the physician who had previously attended, the case was rendered irremediable. Thus the delusion is continued, and all attempts of the medical faculty, to expose the conduct of these vile impostors, and caution the people against their stratagems and frauds, are attributed to the sordid views of self interest, and therefore contemptuously rejected. It is not to be alleged, that the ignorant and illiterate are the only dupes with whom those vagrant jugglers display their medical frauds; even the more enlightened class, on some occasions, have so far suppressed the suggestions of reason and propriety, as to become the ludicrous subjects of such base impositions, whilst the faithful services of the honest physician are requited with ingratitude.

Those who maintain the ridiculous idea, that men may be endowed with intuitive knowledge, or supernatural gifts, and become skilful physicians without education or study, betray a pitiful and contemptible credulity. It is a proof of great ignorance and folly, only equalled by the conceits of those, who believe in the appearance of ghosts and spectres, haunting the dwellings of the dead. These puerile, and superstitious notions will be rejected with contempt, by all men of cultivated understandings, as the offspring of pure ignorance and delusion of mind.

If it be inquired how the unintelligent class of people may distinguish between the medical impostor and the regular bredp hysician, it may be replied, that the dictates of common sense will preclude from confidence all such, however popular, as do not

sustain a character irreproachable for moral rectitude, and who cannot produce sufficient testimonials that they have received a regular medical education, and are qualified for practice. He that is thus duly qualified, being admitted into full confidence, and associated as the medical friend of a family, soon acquires a competent knowledge of their constitutions, and the diseases to which they are most liable. But if he continue to make his regular visits for weeks or months in succession, displaying a pompous parade of medicine, and boasting of his experience, and success, and yet his patient remains *in statu quo*, and if he be incapable of a satisfactory explanation relative to the nature, and probable event of the case, it then becomes a question whether his medical abilities and skill are adequate to his pretensions. And when a man sets himself up in opposition to all other physicians, and at the same time endeavours to conceal his ignorance, by insinuating that he is peculiarly favoured with some instinctive knowledge or supernatural gift; some infallible catholicon, or secret remedy, unknown to regular bred physicians; and if he give assurance that he will cure such as honest physicians have pronounced incurable; and profess to set bones where others can detect neither dislocation nor fracture; then beware of a contemptible impostor, who ought to be avoided as a shameless interloper, and pest to society. —Few persons perhaps, who presumptuously assume the exercise of the medical functions, inflict greater misery, in proportion to the number of unhappy people who entrust their lives to their care, than that description of quacks, who style themselves "*Cancer Doctors.*" Totally ignorant of the nature of the disease which they profess to cure, many harmless, indolent tumours, are declared to be cancers, for which they alone possess a secret and infallible remedy. The roots resembling the claws of a crab, as they affirm, must be "*drawn out*," by the application of plasters, which they have invented for that purpose. These plasters consist, it is well known, of the most virulent poisons, or caustic materials, the principle of which is *arsenic*. It is erroneous to suppose, that regular physicians are unacquainted with these pretended remedies; but they wisely, and conscientiously disclaim the employment of them. When applied to the living substance, instead of *drawing*, they operate by corroding or burning, in a manner similar to a hot iron. The pain attending their process is exquisite, far exceeding

that of the knife, and is of long continuance. These applications frequently produce extensive and ill-conditioned ulcers, difficult to heal; or by irritating the tumour, it is rendered infinitely more inveterate, and the unhappy sufferer is doomed to linger out a miserable life of pain and torment. Besides those terrible consequences, arsenic, when applied to ulcerated parts, seldom fails to insinuate its poisonous qualities into the general system, where it produces the most dreadful effects. A melancholy example of this description occurred to my observation not long since. The timid patient, in order to avoid the operation of the knife, confided in a man who had been in the habit of trifling with the health and lives of his fellow creatures, and the most awful and fatal consequences were the result (see chap. on Cancer). From a similar empirical source proceed a vast redundancy of quack or *Patent medicine*, which, through the medium of newspapers, are imprudently palmed upon the public attention. It would seem as though a host of quacks and impostors, have leagued in hostility against the profession of medicine, inundating the world with nostrums, and usurping the power not only to remedy all the diseases of mankind, but actually to fortify the human constitution, and render it invulnerable. We can scarcely peruse a newspaper, without being disgusted with an ostentatious and nauseous display of the pretended virtues of their Balm of Gilead, vegetable syrups, tooth-ach drops, cornp lasters, and pile ointments, lotions and lozenges, tinctures and elixirs, cordials, balsams and pills. And, to add to the absurdity, a single article is often extolled as being adequate to the prevention and cure of a whole catalogue of diseases, however opposite or discordant in their nature. Thus are we kindly invited to expend a few dollars to purchase of those self "dubbed doctors," that health and longevity, which even the judicious hand of science is too often unable to bestow. While in the use of nostrums under the firm persuasion of their infallibility, the precious moment, the only favourable opportunity of a cure, is often lost, and the disease gaining ground, becomes inveterate in its nature, and baffles all medical skill. Can it be imagined that a single medicine, however efficacious, can be equally applicable to all the various forms and stages of the complaint; if in one state of the disease, it appears well adapted, in another, it must of necessity prove highly injurious. If it be affirmed, that attestations can be adduced of the successful employment of quacks and patent medi-

cines, so may it be asserted, that a random shot has by chance effected the desired execution; yet what man in his right senses, can be found willing to trust his life to such fortuitous incident? But it is to be remarked, that most frequently their testimonials are derived from exceptionable sources, being from ignorant or perhaps interested persons, liable to be deceived, if not to be bribed and corrupted. If it be said that physicians themselves have, in some instances, given countenance and support to popular nostrums, it need only be replied, that whatever may have been their motives, they claim our indulgence for their indiscretion, rather than any commendation for their sagacity and judgment.* Let it, however, be granted, that among the numerous powerful quack medicines, some instances of beneficial effects can be produced. Who, on the other hand, shall reveal the melancholy reverse? Who disclose the sorrowful tale of injured constitutions and of premature deaths, justly ascribable to hazardous and unwarrantable experiments? These observations, however, are to be received with some exceptions, and not as implying an unqualified censure on all medicines not in the hands of the scientific physician. It is that promiscuous empirical practice, without distinction of circumstances, constitutions, or forms of disease, that is here intended to be reprobated. It is not to be denied, that many of our most valuable remedies were at first discovered and introduced by those who could have little or no claim to medical knowledge; and there is no reason to doubt, but some quack medicines now employed, and others to be discovered, will be found to possess great efficacy; but if useful even in ignorant hands, how much more valuable and important must they prove, when judiciously converted to their appropriate purposes?"

The pertinent observations of Dr. Willich, relative to patent medicines, are worthy of remark. "Although," says this sensible writer, "there is but one state of perfect health, yet the deviations from it, and the genera and species of diseases, are almost infinite. It will hence, without difficulty, be understood, that in the classes of medical remedies there must likewise be a great variety, and

* A by-law of the Mass. Med. Society provides, that "whenever any fellow of the society shall *publicly advertise* for sale any medicine, the composition of which he keeps a secret; or shall, in like manner, offer to cure any disease by any such secret medicine, he shall be liable to expulsion, or such other penalty as the society, at their annual meeting, may think proper to inflict."

that some of them are even of opposite tendencies. It is therefore evident, that an universal remedy, or one that possesses healing powers for the cure of all diseases, is, in fact, a nonentity, the existence of which is physically impossible, as the mere idea of it involves a direct contradiction. The belief in an universal remedy has long since been exploded in those classes of society, which are not influenced by prejudice, or tinctured with fanaticism. But the lower and less enlightened classes of the community are still imposed upon by a set of privileged impostors, who frequently puzzle the intelligent reader to decide whether the boldness or the industry with which they endeavour to establish the reputation of their respective poisons, be the most prominent feature in their character. Having acquired their ill merited reputation by mere chance, and being supported by the most refined artifices, in order to delude the unwary, we are unable to come at the evidence of perhaps nine tenths of those who have experienced their fatal effects, and who are now no longer in a situation to complain."

After having reprobated the idea of *Panaceas* or universal remedies, Dr. W. introduces the subject of *Nostrums* or *Specifics*, such, for instance, as are made to cure the *same* disease in every patient, with which, also, impositions of a dangerous tendency are often practised. In those diseases, which, in every instance, depend upon the same cause, as in agues, the small-pox, measles, and many other contagious distempers, the possibility of specifics, in a limited sense, may, he thinks, be rationally, though *hypothetically*, admitted. "But in other maladies, the causes of which depend upon a variety of concurrent circumstances, and the cure of which, in different individuals, frequently requires very opposite remedies, as in the dropsy, the various species of colic, the almost infinite variety of consumptions, &c. &c. a specific remedy is an impudent burlesque upon the common sense of mankind." So much depends upon ascertaining with precision the seat and cause of the affection, before any medicine can be prescribed with advantage or safety, that even life and death are too often decided by the *first steps* of him, who offers to intrude his advice upon a suffering friend. Dr. W. next adduces several striking instances, to illustrate the danger attending the precipitate application of the same medicine in similar disorders; the recital of which cannot but excite the most painful sensations. He adds that cases of this

nature happen so frequently, that it would be easy to extend the account of them, by a long catalogue of interesting, but fatal accidents. From what has been premised, it will not be difficult to conceive, that when a patient resorts to the remedy which is reported to have been successful in similar circumstances, if his case does not exactly correspond with the other, any chance remedy may be extremely dangerous, and even fatal. The absurd idea, therefore, of an universal medicine can only obtain credit with the weak, the credulous, and the ignorant.

In closing his remarks on this subject, Dr. W. quotes the following from Dr. Buchan. "As matters stand at present, it is easier to cheat a man out of his life than out of a shilling; and almost impossible either to detect or punish the offender. Notwithstanding this, people still shut their eyes, and take every thing upon trust, that is adminstered by any pretender to medicine, without daring to ask him a reason for any part of his conduct. Implicit faith, every where else the object of ridicule, is still sacred here." In Parkinson's *Medical Admonitions*, we have the following observations. "It would undoubtedly be rendering a great benefit to society, if some medical man were to convince the ignorant of the pernicious consequences of their reliance on advertised nostrums: but, unfortunately, the situation in which medical men stand is such, that their best intentioned, and most disinterested exertions, for this purpose, would not only be but little regarded, but frequently would be even imputed to base and invidious motives. Those to whom they have to address their admonitions, are, unhappily, those on whom reason has least influence. "Prithee, Doctor," said an old acquaintance to a celebrated empiric, who was standing at his door, "how is it, that you, whose origin I so well know, should have been able to obtain more patients, than almost all the regular bred physicians?"—"Pray," says the quack, "how many persons have passed us whilst you put your question?"—"About twenty."—"And pray how many of those do you suppose possessed a competent share of common sense?"—"Perhaps one out of the twenty."—"Just so," says the Doctor, "and that one applies to the regular physician; whilst I and my brethren pick up the other nineteen."

The whole system of quackery, and the arcana of charlatans, cannot be too severely reprobated by every friend to humanity; and by every advocate for the honour and respectability of our

national character. The evil is of such magnitude as to require the attention of legislative authority. The great object of our legislators in instituting and encouraging medical schools and colleges, for the improvement of literature and science, is but partially achieved, whilst their sons, after having expended much time and money for medical instruction by the most able preceptors, and studying for years with unremitting labour, are degraded to the level, and liable to be supplanted by the most illiterate and audacious impostor, who is totally unacquainted even with the rudiments of physic.

CHAPTER XII.

OF CONTAGIOUS AND EPIDEMIC DISEASES.

THERE is not, perhaps, in medical science, a subject which has, of late years, furnished a more fertile field for discussion and controversy, than that of febrile contagion, and the character of infectious and epidemic diseases in general. Many of the most eminent physicians of the United States have prosecuted their investigations and inquiries, relative to these abstruse topics, with much ardour and zealous perseverance. By their well directed labours, and comprehensive observation of facts, since the visitation of the yellow fever in the year 1793, much light has been elicited; but the interesting controversy seems not yet to have terminated. The sentiments and opinions of medical men, relative to the origin, and real nature of contagious and epidemic diseases, continue to be singularly discordant and diversified. It would require volumes to examine and illustrate the various points in controversy, but these will be left for contagionists and noncontagionists to decide. The object of this sketch, is merely to recite established facts, and to impart such practical observations, as the occasion may suggest. Without attempting, therefore, to investigate or decide, respecting the merit or utility of the schemes and distinctions of the learned authors of the present day, I propose to adhere to the former technical terms, *contagion* and *infection*, as generally received and understood, being adequate to convey practical truths respecting those deleterious principles or invisible agencies, by which the functions and actions of our bodies are so often deranged and interrupted. The terms contagion and infection, have often been employed synonymously; but contagion is now defined to be an animal poison of a specific nature, generated in persons in a diseased state, and capable of communicating the particular disease from one person to another, either by contact, or by approaching within its sphere. According to the late Dr. John Warren, "contagious diseases are understood to be such as arise from the vitiated product of vascular action, capable of exciting in

a healthy person a disease like that by which itself was produced; and infections, such as, though they *may* propagate disease, do not necessarily do so, nor invariably produce the like disease." And in another place he says, "those fevers which are the effect of chemical operation on marsh miasmata, were supposed to be incapable of propagation by any changes to which they were subjected in the human body; and therefore always to cease in the individuals on whom their generating causes had acted; and these should be denominated *infectious diseases.*"* Dr. W. also coincides with Dr. Rush in the opinion, that diseases arising from foul exhalations, will, under certain circumstances, be contagious, especially those of the typhoid kind.

Dr. Clark is decidedly of opinion that marsh miasmata may produce contagious fever. "A contagious disease," says Dr. Miller, "is distinguished from all others by the property of generating or secreting a matter, which applied by contact, or inhaled with the air, by near approach to the sick, or inanimate substances charged with their effluvia, successively reproduces the same disease;" and he supposes the matter of contagion to be invariably the production of animal, and miasmata of chemical action on matter emanating from dead animal and vegetable substances. The word contagion is by Dr. Wilson and some others, considered as expressing the morbid poison, or the means of transferring the disease: and infection, as expressing the operation of the poison, or the act of communicating the disease.

Dr. Shecut, an ingenious physician of Charleston, South Carolina, has published a valuable essay on contagions and infections, in which is presented the following

SYLLABUS.

DISTINGUISHING CHARACTERS OF CONTAGIONS AND OF INFECTIONS.

Contagions are to be distinguished from Infections,	*Infections are to be distinguished from Contagions,*
1. In being the product of *living animal bodies.*	1. In being the product of *dead organized bodies,* animal or vegetable, or both combined.
2. By being a secreted fluid, or other matter, capable of reproducing the same specific disease.	2. By being *ærial fluids,* or *gases,* evolved or disengaged from the foregoing during their decomposition.

* See Mercurial Practice.

3. In being communicable only by contact, or by the close approach of persons; and by the absorption of the matter, or *fomites* of contagion.

4. And that under all circumstances of the weather, whether a pure or impure atmosphere, wet or dry, hot or cold, &c.

3. And are, in general, only communicable through the medium of an impure atmosphere; i. e. the atmosphere which supports them.

4. Or they are the product of an inflammatory constitution of the atmosphere, and thence universal.

In the opinion of Dr. D. Hosack, of New-York, the distinction of some late writers between contagion and infection is unnecessary and fallacious. This learned physician divides all diseases which are contagious, infectious, or communicable from one person to another, into three different classes, according to the several laws which appear to govern their communication. The first class embraces those diseases which are communicated exclusively by *contact*. Second, those which are communicated both by *contact* and by the *atmosphere*. Third, includes those which are only in general communicable through the medium of an *impure atmosphere*.

Epidemic diseases arise from a peculiar state of the atmosphere, and when they occasion great mortality among the inhabitants of cities and countries, they are termed *pestilential*. Diseases of this character have scourged the human race from the earliest ages, and at various periods spread over, and often depopulated, extensive regions of the world.

Those included in this class are principally the acute or febrile diseases, as the plague, yellow fever, typhus, or jail fever, intermittent and remittent fevers, scarlatina, small-pox, measles, dysentery, influenza, spotted fever, typhoid pneumonia, ophthalmia, hooping cough, &c.

Typhus, or jail fever, which is propagated by a poison produced in the clothing, bedding, furniture, &c. is known generally to prevail and spread much more readily in the cold weather of winter, when the apartments of the sick cannot so conveniently be subjected to thorough ventilation. This fever is likewise occasionally combined with other diseases, along with which it is propagated, as with inflammation of the lungs, constituting peripneumonia typhoides, and with a dysenteric affection of the bowels, as in camp dysentery.

The immediate and operative principle of contagion, being neither visible, nor tangible, will probably long continue to elude the best researches of medical philosopers. It is an axiom of

general assent, that the human system is capable of sustaining preternatural changes, and new impressions, in a remarkable degree, when gradually habituated to them. This will account for the well known fact, that native inhabitants of any place, or those gradually habituated to a certain noxious atmosphere, very frequently escape a prevailing epidemic, while a stranger, or one coming from a pure atmosphere, is sure of being one of the first and greatest sufferers from the attack.

Experience has abundantly demonstrated, that malignant febrile diseases may be generated by the confinement of healthy animal exhalations, or effluvia from our bodies, in crowded or ill ventilated places, when assisted by the natural animal heat, but the accumulation and confinement of morbid effluvia, is still more certain in its effects, although the disease be not originally contagious. Hence we find that such fevers, and even the most severe pestilence, originate most frequently among the poor. Sir John Pringle remarks, that contagious fevers are incidental to every place ill aired, kept dirty, and filled with animal steams from foul and deceased bodies; and from this circumstance, jails, and military hospitals, are most exposed to this kind of pestilential infection. Even mild febrile attacks among the poor, though originating from cold or other causes, become contagious in their course in consequence of their confined and dirty situations.

Exhalations from putrefying dead animal substances, have always been considered as powerful sources of contagious and epidemic diseases. Hence human bodies left unburied in the field of battle, often produce typhus or pestilential fever, which spreads its fatal effects over the adjacent country. An instance is recorded of a malignant fever excited by the offal of a city, being accumulated without the walls; while it was covered with water in the ditch, it was not attended by any ill consequences, but when, from increased quantity, it rose above the surface, a dreadful fever spread through the city, and its neighbourhood; so that, where four hundred used to die annually, the deaths were increased to two thousand (Wilson on Fevers). Instances of this description might be greatly multiplied.

Dr. Shecut advances the doctrine, that the yellow fever is not a contagious, but an infectious disease.* That the infection consists

* See his Syllabus, page 166.

in an *ærial fluid* existing in the atmosphere, in consequence of a derangement of the *Electrical Equilibrium* in the air. That when, by the concussion of thunder and lightning, the Electrical Equilibrium is restored, it is impossible for the gaseous poison, or *yellow fever* infection, to exist in such a degree as to produce the *Epidemic yellow fever*. In support of his doctrine, the author adduces the following as facts derived from the medical history and annual meteorological observations for South Carolina.

"1. *In excessive hot and dry summers*, in which there is *much thunder and lightning*, the humidity of the atmosphere being dissipated or rarified by the *electrical influence* purifying the air, the atmosphere does not support the *gaseous poison* in a degree of strength or activity, capable of producing *yellow fever infection*. Hence the prevailing diseases of such seasons are almost invariaby common intermittents, mild intermittents, mild typhus, with simple continued fevers.

"2. *In excessive hot and dry summers*, in which there is *little or no thunder and lightning*, the influence of the *gaseous poison* and type or modification of prevailing diseases, depend wholly upon the greater or less degree of heat.

"3. *In excessive hot and moist summers*, in which there is *little or no thunder and lightning*, the humidity of the atmosphere being increased and there being little or no electrical influence present in the atmosphere, the *gaseous poison* is then capable of exerting its utmost influence, and the prevailing diseases, *typhus endemica* and gravior, are more extensive and more fatal than in other states of the weather.

"4. *In excessive hot and moist summers*, in which there is *much thunder and lightning*, although the extreme humidity of the atmosphere is favourable to the support of the *gaseous poison or yellow fever infection*, still, in consequence of the existence of the *Electrical influence* in sufficient quantity to purify the air, the infection is prevented from the exercise of its influence on the animal health, and the diseases of such seasons are generally mild intermittents, remittents, and catarrhal fevers, &c."—*Essay on Contagions and Infections.*

Marsh miasmata, or the effluvia arising from stagnant water, or marshy ground, when acted on by the solar heat, are the most frequent causes of epidemic fevers of the remittent and intermittent type, and those of a more malignant and pestilential character, are

often ascribed to the same source. Fevers of this description may no doubt afterwards spread, and become prevailing epidemics, particularly in warm climates. In marshes, and swampy places, abounding in vegetable and animal substances, the process of putrefaction or chemical decomposition is constantly going forward, especially when exposed to the intense heat of the sun. Exhalations arising from this source, have long been considered as one general cause of epidemic and other malignant fevers. Marshes, however, are not the only sources whence these pernicious exhalations arise, they also proceed from moist earth, slime or mud, and from animal and vegetable substances in a state of putrefaction, inducing fever on human bodies exposed under certain conditions to their influence. These exhalations or gases, are known to be more powerful, concentrated, and virulent in hot climates, and warm seasons, than in temperate ones. It is a fact universally admitted, that heat and moisture, are powerful agents in producing epidemic and pestilential diseases, and that constant *wet* and constant *dry* weather, are both unfavourable to their generation and diffusion. It is remarkable that these noxious exhalations, do not rise high in the atmosphere, nor spread far from their source, at least without such dilution by pure air as greatly to diminish their deleterous qualities. In the barracks of soldiers in the West-Indies, consisting of an upper and lower floor, Dr. John Hunter affirms, that there were three taken sick on the ground floor, to one on that of the story above. Even at a few hundred feet above the level of the marshes, the situations are extremely healthy. A very small space frequently includes that of healthy and unhealthy ground, and the matter of contagion in common states of the atmosphere seems sometimes to be almost confined to the individual in which it exists. The mephitis, or noxious principles which at certain times are exhaled from the surface or bowels of the earth, may have a considerable influence in the production of epidemics.

Another source of epidemic diseases, is found in camps, and in cities when ill-constructed, and neglected, as ground contaminated with human excrements, offal, waste water after washing, foul straw rotting in tents, &c. These seldom fail to produce epidemic diseases of the most fatal tendency, especially in hot and moist weather, when camps remain long on the same ground. The air of a marsh, or of a foul camp, says that accurate observer, Dr. John Hunter, may destroy an army almost as soon as the true plague. In

exploring the causes of the yellow fever and pestilence in our own country of late years, they have been traced most frequently to accumulated filth, consisting of animal and vegetable substances about the public wharves, and in the streets and alleys in our cities; and to the foul air generated in the holds of vessels after ong voyages, and not being properly ventilated. A vessel returning to a port may retain a local atmosphere, which although innoxious to those on board, may yet prove a mortal pestilence when let loose among the inhabitants.

In several instances the yellow fever has been ascribed to the effluvia produced by fish, beef, hides, coffee, potatoes, and other animal and vegetable substances, while in a state of putrefaction, by being exposed to heat and moisture.*

Within the last twenty years the subject of contagious and epidemical diseases has arrested the attention of intelligent physicians who commanded the highest respect and confidence in our country. Drs. Rush, Miller and Mitchell, with other gentlemen of high standing in the profession, pertinaciously opposed the doctrine of contagion and importation of yellow fever. They zealously advocated the opinion that the disease originated from domestic and local causes, such as the exposure of putrid animal and vegetable substances, and to the foul air which issues from the new made ground, raised on the muddy and filthy bottom of rivers and marshes, for the purpose of constructing wharves. That it spread exclusively by exhalations from putrid matters which are diffused in the air. It is in support of this opinion, they conceive, that the disease prevails only during one particular season of the year, viz. the close of the summer, and throughout the autumn, and always ceases on the commencement of cold weather, and that it is incapable of spreading from the sick to the well in situations remote from putrid effluvia. It is confidently asserted that of the many thousands who were affected with the disease at New-York, Philadelphia, and other places, and were removed beyond the limited

* In the summer of 1819, a dreadful fever broke out in the town of *Mobile*, attended with unexampled mortality, which swept off a large proportion of the inhabitants both residents and strangers. The cause of this destructive pestilence is ascribed to an immense mass of vegetable matter in a noxious state of decay. This mass consisted of rotten logs, pine bushes, saplings, &c. which were most imprudently employed to fill up wharves, streets and low lots. These materials were covered with a small quantity of earth and *swamp mud*. Great rains and intense hot weather ensued, and prepared the mass for the production of noxious exhalations, pestilence and death.

influence of marsh miasmata, into a pure uncontaminated atmosphere, whilst labouring under the disease, or after having imbibed the poison, no instance has been known of its having been communicated to others. Even the physicians, nurses, and assistants, whose duties lead to an incessant and unreserved intercourse with the sick, sleep in the apartments of the dying and the dead, and often in actual contact and exposed to every possible mode of infection, have, nevertheless, invariably escaped the disease. These unqualified assertions, however, are by the contagionists declared to be at least questionable, and some palpable instances to the contrary have been produced and promulgated by Dr. David Hosack of New-York. This gentlemen, having devoted unremitted attention to the subject, will not admit the foregoing reasoning as satisfactory, but strenuously contends for the doctrine of contagion, and coincides with many European authors in the opinion that the yellow fever may be imported from one foreign country to another by means of personal intercourse, or by infected articles of commerce. He affirms that the yellow fever under certain circumstances, is of a contagious character, and that it has actually been imported into our cities from the West-Indies; and has adduced several examples of its having been communicated from "the sick to the well," even in situations remote from that in which the disease originated.

Dr. Hosack's conclusions are,

"1st. That an impure atmosphere is indispensably necessary to multiply and extend the specific poison constituting plague, dysentery, typhus, and yellow fever.

"2dly. That the impurities of the atmosphere do not produce their effect in the manner suggested by Dr. Chisholm, by increasing the susceptibility of the system to be acted upon by the peculiar virus of those diseases.

"3dly. That instead of predisposing the body to be thus acted upon, the reverse is the fact; that the predisposition of those who are most exposed to such impure air is less, while those who reside in the pure air of the country are most liable to be infected when exposed to the contagion.

"4thly. That the impurities of the atmosphere are fermentable materials, to be called into action by the specific ferment of those diseases, aided by heat, moisture, and a calm state of the atmosphere, and that as far as such atmosphere extends, and the circumstances favourable to such fermentative or assimilating process

continue, so far those diseases become epidemic, but no farther."

The principle of our author relative to a fermentative and assimilating process, is analogous to the fermentation of vegetable and animal matters under the influence of heat and moisture, which, with the addition of a ferment, is greatly increased and supported, while by frost and cold weather the process is always checked and interrupted. This observation applies to infectious epidemics, the spreading of which is always observed to cease on the approach of cold weather.

Since the publication of the first edition of this work, the learned and indefatigable Professor Hosack has added much to the public information on the subject of contagiousness of yellow fever under particular circumstances. His doctrine of a modified contagion may now be considered as well established, and is supported by the high authorities of the late Drs. Wistar, Griffiths, Shippen, Kuhn, and many others. Under different circumstances, it is admitted that yellow fever is not communicable, and the same of plague, dysentery, &c. The fact is also well substantiated, that yellow fever has seldom, if ever, been known to attack the same individual a second time, such cases being of equal rare occurrence as a second attack of small-pox, or of other diseases of acknowledged specific contagion. Dr. Hosack has arranged those diseases which are communicable from one to another, under three heads. First, those which are communicated *exclusively* by *contact*. In this class are the *Itch, Syphilis, the Laanda of Africa, Frambœsia, or Yaws, Elephantiasis, or Leprosy, Hydrophobia,* and the *Vaccine Virus.* Neither of these diseases can be communicated in any other way than by *contact;* they are therefore *contagious* diseases, in the strict etymological sense of the term. But there is a second class of diseases also considered as contagious, which are communicated under different circumstances, governed, in this respect, by different laws of communication. Those are such as are communicated both by *contact* and by the *atmosphere,* as *Small-pox, Measles, Chicken-pox, Hooping Cough, Scarlet Fever,* and *Cynanche Maligna.* Contact, or the *close approach* to the sick, labouring under these diseases, will communicate them to those who are susceptible of their influence—but they are no less communicable through the *medium of the atmosphere.* A *second law* which governs the

communication of this class of contagious diseases, is, that they are communicable in *every season*, in the heat of *summer*, as well as in the cold of *winter*—in a *pure*, as well as in an *impure* air, though more readily by the latter than the former. The third class of diseases that are communicable from one person to another, as arranged by Dr. Hosack, consists of Plague, Yellow Fever, Typhus, *Jail*, *Ship*, *Hospital*, or Lake Fever, and Dysentery. These diseases are only, in general, communicable through the medium of an *impure* atmosphere: in a pure air, in large and well ventilated apartments, when the dress of the patient is frequently changed, all excrementitious discharges immediately removed, and attention paid to cleanliness in general, these diseases are not communicated, or very rarely so, from one to another. But in an *impure* air, rendered so by the decomposition of animal and vegetable substances, as takes place in low marshy countries, or by concentrated human effluvia, as in camps, jails, hospitals, or on ship-board, they are rendered not only extremely malignant and mortal in themselves, but become communicable to others who approach the sick, or breathe the same atmosphere, which has become *assimilated* to the poison introduced, insomuch that the *same specific disease* is communicated, whether it be the *Plague*, *Yellow Fever*, *Typhus*, or Dysentery.*

Dr. Thomas (*Modern Practice*) agrees with Dr. Bancroft in the opinion that marsh exhalations and the effluvia arising from putrid vegetable and animal substances, under a concurring vitiated state of the atmosphere, were the causes which gave rise to yellow fever, in our cities, and that it was afterwards kept up by contagion, heightened by various accidental circumstances, to a pestilential degree of violence.

"Very hot and sultry weather, with a long drought, will greatly predispose to the prevalence of this fever as an epidemic in all tropical climates; and it may have a similar effect in America, where the summer months are intensely warm."

There is in epidemics a striking mutability of character, and a remarkable predominance, in general, over other diseases. They seem to possess a law, or property, by which they convert every other complaint into themselves, or banish it during their own continuance. It appears also to be among the laws of epidemics,

* See Med. and Phil. Register, Trans. of the Col. of Phys. Phila., Hosack's Med. Essays, and Pam. on Med. Police.

that those persons most susceptible of disease, are liable not only to receive it the soonest, but with the greatest severity, and on its first appearance it spreads with the greatest mortality, when after a certain period it is gradually disarmed of much of its power, and becomes controlled by medicine equally with diseases of any other description.

This may be explained partly by considering that the noxious principle in the atmosphere has lost a portion of its violence, and the air approximating to a state of salubrity, and partly by the bodies of men becoming habituated to the pestilence.

It is a point of much importance, to ascertain the mode and circumstances of the communication of contagion from one individual to another, and of its general spreading, with a view to discover the means of suppressing it or preventing its extension. It is obvious that contagious diseases, which are communicated by contact only, may in general be avoided, by shunning the contact of the diseased or other infected substances; but those infectious principles which are supposed to be soluble or diffusible in atmospheric air, exhibit phenomena which are not clearly comprehended. It may, however, be observed, of all the febrile contagions, whether of a specific origin, as that of the small-pox, measles, scarlet fever, or malignant sore throat, or arising from the casual change of the animal effluvia, as that of typhus, jail, or hospital fever, that they have been found by experiments, to be propagated by the same laws, and to be suppressed by similar means.

At the first appearance of an epidemic disease, a considerable number of persons being seized with it, a general alarm is immediately excited in consequence of an opinion entertained by some, that the seeds of an evil so generally destructive, must be diffused through the atmosphere at large, and that contagion must be inhaled at every breath; and so great are the apprehensions and terror, that in some instances people cannot be prevailed on to visit the houses or to afford the necessary assistance to their suffering friends. But recent observations have happily made it appear that such opinion is erroneous, and that the alarm and consternation thus excited are altogether groundless. The nature of this subject being more accurately understood than formerly, we are taught to disregard many imaginary evils and sources of terror. The fact is now well established, that the infection of malignant

fever, in common with that of plague, in the open free air, does not appear to diffuse itself more than a few feet from its source. The contagion of that dreadful malady, the plague, does not contaminate the atmosphere in general, nor indeed to any great distance from the source of the poison; it is principally propagated by actual contact, or close communication with the diseased or their clothes, furniture, &c. The fact has long been known, that during the plague at Aleppo, in 1762, Dr. Russell held communication with his patients while stationed at a window fifteen feet above the ground, with perfect impunity. That the contagion of small-pox, however virulent, cannot be conveyed through the air to any considerable distance from the source of the poison, has been demonstrated by direct experiments; Dr. Haygarth relates the experiments of Professor O. Ryan, who placed six children within half a yard of balls of cotton, copiously impregnated with fresh small-pox matter, and repeated the operation three times a day, during a whole week, for an hour each time, without communicating the disease to either of them.* So extremely limited is the sphere of activity of febrile contagion in the open air, that no instances have occurred of contagious fever being conveyed from the wards of hospitals, to the adjacent wards or neighbouring buildings. Nay, it has been farther ascertained in these wards, and houses, as well as in the habitations of the rich, that in a clear well aired room of a moderate size, the contagious poison is so completely disarmed of its virulence by dilution with fresh air, as seldom to excite the distemper even in nurses exposed to all the putrid miasma of the breath, perspiration and other discharges. The most malignant contagions are, in fact, rendered inert and harmless, by diffusion in the open air, and even in the air of well ventilated apartments. It is apparent, therefore, that pestilence is propagated by near approach to, or actual contact of the diseased, or by the conveyance of the contagious poison in articles impregnated with it. The wearing apparel, bedding, uncleanliness of any sort, long retained in that impure state, contain a more certain, a more concentrated, and contagious poison, than the newly emitted *effluvia*, or excretions from the sick. Many contagious diseases are, by such fomites, spread and perpetuated. The contagion of small-pox has been conveyed in an old blanket to nations

* Instances have been adduced of persons having taken the small-pox by passing a house where it existed.

of Indians, some of whom it has almost extirpated. It is by these means, and not by the impregnation of the atmosphere, that the small-pox, measles, typhus, hooping cough, itch, tinea capitis, &c. are perpetuated, and febrile contagions are thus from time to time widely diffused.

The actual virulence of contagion accumulated in fomites in unventilated and crowded rooms, is well known to prove, on many occasions, extremely destructive, especially when carried at once by a direct draught of air, yet its tendency to diffuse itself, and its power, when diffused through the atmosphere in general, are very limited.

It is to be observed all individuals are not equally liable to be infected by contagion; and some, though the number is extremely small, escape altogether. Thus there are persons who have gone through a long life without taking the small-pox. The constitution, however, appears occasionally to undergo such change in the course of life, that those who in earlier years had resisted the action of this contagion, have received it on some future exposure to its influence. There is considerable difference, too, in the infectious degree of different contagions: thus, that of the hooping cough affects a much smaller proportion of mankind than that of the measles, or small-pox; and that of the scarlet fever excites the disease in children much more frequently than in adult persons. It often happens that a considerable number of people, visitors, nurses, &c. breathe the air of the chambers of patients ill of contagious fever, and yet escape the disease; it seems,therefore,to be an important inquiry into the dose of typhous contagion requisite to produce infection. The quantity will vary no doubt according to different circumstances. There appears to be a strict analogy between contagious miasma and other poisons. The larger the dose of a poison or drug, the greater, in general, is the effect which it produces. Many of the most powerful and salutary medicines, when taken in too large a quantity are poisonous. And on the other hand, the most virulent and unmanageable poisons may, by the skill and attention of physicians,be rendered in a a proper dose safe and useful remedies. Farther, in different constitutions, and in different maladies, there is a certain degree of variety in the operation of any drug. Thus four or six times the dose, *e. g.* of antimony, or mercury, may be required for one patient more than for another, or for the same person in different

diseases. In the same way the mischievous quantity of miasma admits of some variation. The atmosphere of a room where contagion is generated, if cleanliness and ventilation are employed, may therefore be breathed for a long time with impunity; and it is not less clear, that an atmosphere strongly impregnated, may be breathed for a short time with the same impunity.

Physicians have, in innumerable instances, visited patients ill of infectious fevers, in small, close and dirty rooms, breathed the most pestilential air in the most concentrated state, and yet escaped infection. Their safety is ascribed to their precaution in not remaining long enough in the patient's room to respire a sufficient dose of the poison to produce disease. There are, however, other facts, which prove that infection is occasioned suddenly in some instances, and from a very short exposure to pestilential air. Whether this is owing to peculiar susceptibility of the individual, or to the particular mode of receiving the contagious effluvia, has not been satisfactorily ascertained. A writer in Rees' Cyclopædia asserts, that he visited a poor family of four persons, lying in the same bed, in an exceedingly close and dirty apartment, ill of contagious fever. He always had the precaution to throw open the windows on entering the room, to station himself between the window and the bed, whilst he examined the sick, and to remain but a short time with them. After repeating his daily visits during a week with impunity, he was accompanied by another physician, who took no precaution, but examined the patients minutely and closely, standing on that side of the bed which exposed him to the contagious effluvia, and so near as to receive the effluvia and the breath in the most concentrated state. He took the infection, and his fever proved fatal. Here is an instance of an infection attributable to a full dose of the poison, which his incautious zeal induced him to inhale, but which, by a more prudent conduct, he might have avoided. In most cases, as in this, when a sudden infection takes place, a disagreeable sensation is excited, which different persons have described differently. Some have felt a sharp taste in the mouth, as if blue vitriol were dissolved in it, but which no washing or gargling can remove. Others have compared the first impression to that of an earthly exhalation, from a newly opened grave, the sensation extending down to the stomach, sometimes exciting instantaneous sickness and shivering. Dr. Haygarth mentions two physicians infected suddenly by a short

exposure. One of them thought that he caught the fever by standing behind, in order to assist the patient; the other, by inspecting morbid fæces. Dr. Lind is of opinion, that in these diseases, the stools, if very fœtid, are most communicative of contagion, next to these, the breath, and lastly, the effluvia from the body.

The activity of contagion is not always proportionate to the appearance of malignancy in the disease. Sometimes, only one of a great number equally exposed will be seized. And the most malignant cases of fever have been known to exist without affecting any other of the family, though confined in a close and small house. And on the contrary, fevers of the mildest description have occasionally been observed to spread extensively through a neighbourhood. It is obvious, therefore, that great caution should be used in pronouncing fevers not infectious.

The period at which different fevers begin and cease to generate contagious effluvia, is not absolutely ascertained. It seems most probable, that in eruptive fevers, there is no contagion till within a short time before the eruption appears; and that contagion remains so long as any scab remains on the skin. This is clearly the case in the small-pox.

The latent period of contagion, or the period which elapses between the exposure and the first appearance of the disease which ensues, is ascertained, with tolerable accuracy in respect to the small-pox; being, by inoculation, eight or nine days, and by the natural way, from ten to sixteen days. The latent period of the contagion of measles is from ten to fourteen days. But the latent period of typhus infection is more irregular and often much longer. It seldom appears before the 10th day, but most commonly from the 20th to the 60th. Latent infection, is doubtless excited into action by circumstances which may render the constitution less capable of resisting it. Such are exposure to cold, wet and damp air, fear, grief, anxiety, fatigue, watching, debauchery, wounds and bruises, and all causes which debilitate the system.

During the prevalence of a pestilence, it has been observed, that exposure to the damps of evening in warm countries, is extremely dangerous, and the abuse of intoxicating liquors is not less so. From the great length of time in which the contagion of fever often lies dormant, we may infer with Dr. Lind, the probability that without the influence of these exciting causes, the

contagion might never, in such instances, have affected the constitution.

Prevention of Infection.

If it be admitted, as a fact, that contagion originates in accumulated and confined animal effluvia, and is communicated either to those who approach, or come in contact with the sick, or by means of substances impregnated with contagious matter, and in these ways only, the means of prevention are obvious. With respect to the casual origin of contagion, it is scarcely necessary to say that cleanliness and ventilation, as they preclude the confinement and accumulation of the animal effluvia and secretions, will infallibly prevent the generation of the poison. When contagion exists, its farther communication may be prevented by avoiding contact, or approach to the sick, and by confining the patient to a separate room, in which, if it be kept clean and well ventilated, it has already been shewn that the contagion will be inert at a short distance from the sick, and, therefore, that the necessary attendants, and medical visitors, will receive no injury from respiring the air within it. In this way contagion has been prevented from spreading in large schools, and other places where a number of people live together, as in work houses, hospitals, and other crowded situations.

The following rules are recommended by Dr. Haygarth for the prevention of infection.

"1st. As safety from danger depends entirely on cleanliness and fresh air, the door of a sick room where a person labours under an infectious fever, (especially in the habitations of the poor,) ought never to be shut: a window in it should generally be opened during the day, and frequently during the night.

"2nd. The bed curtains ought never to be closely drawn round the patient, but only on the side next the light, in order to shade the face.

"3d. Dirty utensils, clothes, &c., ought to be frequently changed, immediately immersed in cold water, and washed clean when taken out.

"4th. All discharges from the patient, should be instantly removed, and the floor near the bed, be rubbed every day, with a wet mop or cloth.

"5th. As some parts of the air in a sick room, are more infectious than others, both attendants and visitors should avoid the

current of the patient's breath, the exhalation ascending from his body, especially if the bed curtains be closed, and also the vapour arising from all evacuations." When medical or other duties require a visitor or nurse to be in such dangerous situations, Dr Haygarth observes that infections may be frequently prevented by a temporary suspension of breathing.

"6th. Visitors ought not to enter infectious chambers, *fasting*, and in doubtful circumstances, on their departure it will be advisable to blow from the nose, and spit from the mouth, any infectious poison which may have been inhaled by the breath and may adhere to those passages.

"By observing these rules, not only numerous visitors, but the medical attendants, and the nurses themselves, who frequently move and otherwise assist the sick, in fever-wards, and the wards of houses of recovery, entirely escape infection. This is proved with scarcely any exception, in all the institutions of this sort throughout England and Ireland. By the same rules, Dr. Haygarth arrested the progress of a scarlet fever and a sore throat in a school containing thirty-seven boarders, at a time when other great schools were dispersing their scholars on account of this most contagious distemper which had spread alarmingly among them."

Contagion may be extensively excited by fomites, attached to clothing, especially those made of cotton and wool which are extremely porous, also many articles of furniture and of commerce. It is supposed by some, that when the poison has been long secluded from the air, in close chests or packages, it acquires an increased degree of activity and virulence. This mode of communication is greatly to be apprehended during the prevalence of contagious or epidemic maladies. Hence severe quarantine laws have in every country been enacted, in order to prevent the importation of foreign pestilence with the articles of commerce, and it is not less necessary, during times of internal pestilence, to be watchful in regard to this point. The fact is well ascertained by experimental observation, that by a slight exposure to contagious miasma, the clothes of visitors, &c. become sufficiently imbrued with them to communicate small-pox, and scarlet fever with ulcerated sore throat. But the contagion of typhus being much less powerful than either of these, it is only where substances have been for a long time in contact with the sick or near them, as the bed or linen of the patient, that they become sufficiently impreg-

nated with the poison to communicate the infection. It is in close and dirty places, where the contagion is concentrated by accumulation and confinement, as in the cells of jails, or in the apartments of the poor, that the utmost virulence of the poison is produced. Contagion, adhering to clothes and furniture, may be effectually destroyed by the vapours from various combustible and volatile substances, or being buried some days in the earth. Dr. Lind recommends the fumes of tobacco to be dispersed through the cells and infected apartments, in prisons and ships, as well as for the purification of infected articles; he also advises the exposure of fomites to the fumes of sulphur from a charcoal fire, as an efficacious mode of purification. But he is perfectly convinced, he says, from long experience, that even the simple heat of a close confined fire, or the heat of an oven, is a destroying power, which no infection whatever can resist. The efficacy of burning gunpowder is conceived to be considerable. The vapours of vinegar have been long used with some degree of success, and should in no case be neglected. But, according to many eminent European authors, the most efficacious of the means which we possess of destroying contagion in fomites, are the fumes of mineral acids, as recommended by M. Guyton Morveau and Dr. Smyth. Those of the muriatic, and still more perhaps those of the nitric acid, appear to be complete antidotes to accumulated contagion. "At the suggestion of Dr. Carmichael Smyth," says Dr. Thomas, "important experiments were made, by desire of the Lords of the Admiralty, with the nitric acid vapour, on board the Union Hospital Ship, in November, 1795, to correct the contagion of a very malignant fever, which had made great ravages among the crews of the Russian ships at Sheerness; the success of which was so complete, as not to leave the least reason to doubt of the high efficacy of this fumigation. Many subsequent trials in various places have confirmed this opinion, and have induced the House of Commons to vote a reward (of 5000*l.*) to Dr. Smyth, for his valuable and easy method of destroying the contagion of infectious fevers."

Dr. Duncan, author of the Edinburgh Dispensatory, gives his testimony and commendation of the method of purifying jails, hospitals, ships, and other infected places, by the acid fumigation, or the oxymuriated acid vapour, by which he thinks the poisonous miasmata will be decomposed and entirely destroyed.

The vapours from the mineral acids are not deleterious to life, and may be diffused in the apartments of the sick without occa-

sioning any material inconvenience, in the following manner. Half an ounce of powdered nitre is to be put into a saucer, which is placed in a pipkin or pot of heated sand. On the nitre, two drachms of sulphuric acid are then poured. The fumes of the nitric acid immediately begin to rise. This quantity will fill with vapour a cube of ten feet; and by employing a sufficient number of pipkins, the fumes may be easily made to fill a ward of any extent.

It may be of little importance whether the nitric or the muriatic acid be employed, as the powers of both are extensive and certain. When the muriatic is preferred, one pound of muriate of soda (common salt) is put into an earthen vessel, and a small quantity of sulphuric acid is poured over it until the whole salt is moistened. If a gentle heat be applied, a larger quantity of vapour will be extricated.

It is proper here to remark, Dr. Trotter, of the British fleet, entertains no favourable opinion respecting the acid fumigation, and has even asserted, that in the experiments of Dr. Smyth, there was deception from first to last; and Professor Mitchill, of New-York, denounces them as equally preposterous and inefficient, having no tendency whatever to neutralize or decompose the contagious atoms, or in any manner to diminish their activity.

Dr. Thomas prefers the following as the most effectual of all fumigations. Take of manganese in powder, two parts, the same of common salt, of sulphuric acid, three parts, and of water, one part. Put an ounce of the mixed manganese and salt into a bason, add of water a large tea-spoonful, then drop in half a tea-spoonful of sulphuric acid, and repeat this till you have used a tea-spoonful and a half of the acid. In this manner keep up a sensible extrication of the fumes.

The most effectual means to be used for preventing a return of contagious fever in our cities, besides a proper system of quarantine laws, rigidly executed, are, "1st. Remove all those filthy substances from streets, gutters, cellars, yards, stores, vaults, ponds, &c. which, by putrefaction in warm weather, afford the most frequent cause of the disease in this country. 2d. Frequent washing of all impure parts of the city in warm weather. 3d. To guard against the frequent source of the fever from noxious air in the holds of vessels; the unloading such vessels as contain cargoes liable to putrefaction, and discharging the ballast of all vessels at a

distance from the city, during the warm months, should be strictly enjoined. By detaining vessels with perishable cargoes in hot weather, the foul air in the holds is continually increasing, or becoming more pestilential by concentration and increased virulence. 4th. The filling up or cleaning the docks in such manner that no substances, capable of putrefaction, shall be exposed to the rays of the sun at low water. All clothing, bedding, and every other thing impregnated with animal effluvia, should be made to undergo the operation of washing, and even the bodies of the sick. All houses, and other buildings that may be infected, should be ventilated in the most faithful manner, and the floors and walls carefully scrubbed with soap and water, and then white-washed with lime."

For personal preservation it is recommended, that during the prevalence of a contagious epidemic, temperance, regularity, and care in avoiding all causes of debility, the employment of the cold bath, and the preservation of an equal state of mind, be particularly regarded. Whatever tends to inspire confidence in the mind, contributes to the security of the body. As soon as a person has returned from visiting an infected patient, he ought to wash his hands and face in vinegar, and change his clothes, carefully exposing those he has worn to fresh air; and then to drink a warm infusion of sage or other aromatic herbs which tend to excite perspiration. Dr. Rush recommended his fellow citizens to reduce their diet during the prevalence of the yellow fever. He lived sparingly himself upon tea, coffee, milk, and the common fruits, and garden vegetables of the season, with a small quantity of salted meat and smoked herring. His drinks were milk and water, weak claret, weak porter, and water. "I sheltered myself," he says, "as much as possible from the rays of the sun, and from the action of the evening air, and accommodated my dress to the changes in the temperature of the atmosphere. By similar means I have reason to believe that many hundreds escaped the disease that were exposed to it. There appears to be no combination of climate and miasmata that can resist the good effects of abstinence or depleting medicines, in preventing or moderating an attack of this fever."

This eminent physician recommended also, besides a diet of milk and vegetables, cooling purges to be taken once or twice a week, and moderate blood-letting, to all such as were of a plethoric habit, and small doses of calomel, so as gently to affect the

gums. To these he added the warm bath and the cold bath, issues, setons, and blisters.* A flannel shirt worn next the skin, will be found highly beneficial by keeping up a free and equal perspiration. He pointed out the necessity of avoiding all causes that tend to excite the contagion into action; such are heat and cold, the early morning and evening air, even in warm weather. Fatigue from amusements, such as fishing, gunning, dancing, and from unusual labour or exercise. Intemperance in eating and drinking, and all violent emotions or passions of the mind, ought to be guarded against with the utmost care.

"The Royal College of Physicians of London, and the Army Medical Board, have decided that the *yellow fever* is a contagious disease, and, by consequence, an importable one. This decision enforces the necessity of strict quarantine regulations."

Boston Centinel, August 17, 1816.

The following hints and observations, extracted chiefly from Thomas's Modern Practice, are deemed highly important and interesting to that class of people who are natives of cold or temperate climates, and who are called to visit the West Indies or other hot latitudes. "Men," says Dr. Thomas, "who exchange their native, for a distant, climate, may be considered in a light somewhat analogous to that of plants removed into a foreign soil, where the utmost care and attention are required, to inure them to their new situation, and keep them healthy. Every person, in exchanging his own climate for a warmer one, should, if possible, avoid arriving in his new situation during the rainy season of the year. This, with some small variation, begins in August, and terminates in October. The plethoric and robust being the subjects most liable to malignant diseases, all such, on their approach to the warm latitudes, ought to be bled in proportion to their strength; but should this have been neglected during the voyage, it may be

* "A respectable physician of Philadelphia," says Dr. Mease, "thinks he owes his escape during several epidemic fevers, to the irritation produced by a blister on the wrist, which he kept open."

Dr. C. Smyth, on jail fever, observes that persons who have issues open are seldom affected by contagion.

In his valuable Treatise on Mercurial Practice, Dr. John Warren relates an instance of a young woman in Boston, who had scalded her feet, and who lodged with one of the sick in a family who were affected by a very malignant typhus fever, and was long exposed to the effluvia, but so long as the sores continued to discharge she continued in health. The sores at length healed, and she immediately became sick.

done immediately on their arrival on shore. After bleeding, if the person is of a full and plethoric habit, the bowels are to be opened by some cooling purgative; and if he is naturally of a bilious habit, it may be advisable to premise a gentle emetic. He may then begin a slight course of mercury, taking from two to four grains of calomel, according to his age and other circumstances, every other night, until the gums become somewhat affected. Should the medicine run through the bowels, a grain of opium may be added to each dose. When the mouth shows the mercurial action, a dose of cooling physic ought to be administered after one or two days intermission of the medicine. In some constitutions, not easily affected by mercury, it will be necessary to persevere with steadiness until the system be thoroughly impregnated, for thereon depends the safety of the patient. On his arrival, he must observe the greatest temperance in his diet, carefully guard against any exposure to the sun in the middle of the day, and the cool air of the night, until he becomes somewhat habituated to the climate. The effects of temperance as a prophylactic, are strikingly illustrated by Dr. Chisholme, who observes, that while the yellow fever raged at the Island of Grenada, the utility of this was remarkably illustrated by the almost total exemption of the French inhabitants from the disease, whose mode of living, compared with that of the English, is temperate and regular in an uncommon degree.

"If the stranger on his arrival has it in his power to choose the place of his residence, he ought to prefer that situation which is somewhat elevated, dry, open to the air and sun, and remote from woods, stagnant waters, and marshy grounds. Swamps and marshes, when acted upon by a powerful sun, particularly after heavy rains, send forth noxious vapours and exhalations, which prove a never failing source of intermittent and remittent fevers, fluxes, &c. to all descriptions of inhabitants, but more particularly to Europeans, and strangers lately arrived.

"Persons of this description ought, therefore, to pass as little of their time as possible in such a situation, and when obliged by business to resort there by day, they should retire early in the evening, before the dews begin to fall, to one that is elevated, and that has the advantages before described. If no such situation is to be procured without great inconvenience, sleeping on board a vessel in an open road, or healthy harbour will then be preferable

to passing the night on shore. Where unfavourable circumstances do not admit of either of these advantages, and new comers are obliged to remain constantly in an unhealthy spot, they will act prudently in adopting such means as will tend in some measure to lessen the danger to which they are exposed. The highest apartment in the house should be chosen to sleep in, if furnished with a stove, a small fire should be kept in it; and the windows that front the swampy ground, if the house is to leeward of this, are to be kept shut, admitting the light and air by the others. Tobacco may be smoked freely, and about half an ounce of the compound tincture of bark be taken every morning and evening. The diet of strangers newly arrived in a warm climate should consist of a greater proportion of vegetable food than of animal, avoiding such articles of the latter as are either salted or very highly seasoned. To all such, a free use of ripe subacid fruits will be highly proper, as they will not only assuage thirst, but serve to correct any tendency in the fluids to putrefaction. All new settlers should observe a moderate indulgence in the delicacies of the table, a spare and temperate use of all kinds of vinous and spirituous liquors, a proper self command in sensual gratification; the carefully avoiding any exposure to a current of air or moisture particularly when the body is heated by exercise; their return early to their respective homes, before the night dew begins to fall; and the ircautiously obviating a costive habit, by taking from time to time some gentle cooling laxative, until they are able to establish a proper regularity in the natural evacuations.

"The custom of going early to bed, and rising betimes in the morning, is conducive to health every where, and more especially in hot countries. If gentle exercise, either or foot or horseback, be added in the morning, it will prove highly salutary; and should cold bathing be first used, the body would thereby be much invigorated, and rendered less susceptible of external impressions. Where the convenience of a proper bath is not to be procured, water properly cooled by having been exposed all night to the air in pots or a tub, may be thrown over the body. Dancing is an amusement cautiously to be shunned by all new comers. The dress of such persons should consist of coats made of thin woollen cloth, with waistcoat and breeches of dimity or nankin. What is worn next to the skin should be made of cotton

in preference to linen, as this last, when moistened with perspiration in consequence of any severe exercise, is very apt to convey a sense of chilliness, when the body becomes inactive again. Calico shirts will therefore be preferable to linen ones. Those who are afflicted with rheumatic pains, may substitute a waistcoat of flannel next to the skin. New settlers should observe the greatest precaution in changing their clothes of every kind as soon as possible after getting wet, a circumstance too frequently made light of and neglected, and which often, therefore, proves the cause of disease."

It need only to be observed further, that those who emigrate to hot climates should not only by additional clothing be particularly guarded against the damp air and dews of morning and evening, but it is also highly important to fortify the stomach against the attack of disease by taking a cup of warm coffee, camomile tea, or wine, immediately after rising from bed, and never go out in the morning with the stomach empty.

According to Dr. Shecut, who has resided for many years in Charleston, South Carolina, strangers and native children are considered as naturalized, and their systems assimilated to the climate after about nine years constant residence. During the prevalence of an epidemic, therefore, the greatest mortality is always among strangers and children under nine years of age. Both natives and strangers, however, by breathing an infected atmosphere, receive more or less a predisposition to disease, and various causes are sufficient to excite the dormant infection into action, and produce a fever of the highest grade of malignity. "I have," says the author, "seen many instances, in which persons who reside part of the year on their plantations, and part in the city, have fallen victims to the injudicious and rash practice of visiting their plantations during the prevalence of the disease in the city, and often only by sleeping out of town for *one or two nights.*" This fact is thus illustrated.

"If during the prevalence of a disease from an infectious atmosphere, and to which the citizens resident have been naturalizing themselves for a given time, change from the local peculiarity of the place to that of another less noxious, say for one night only, it must be obvious, that they will have exhaled or discharged the noxious air, and inhaled the purer air of the place in its stead;

and now, after having taken in a full portion of this air, they again return to that which is infected, the consequence will be, that as they again discharge the air of the former situation, they receive an entire supply of the *infected atmosphere*, and in point of predisposition to disease are placed upon a parallel with strangers." Dr. Lind on diseases of hot climates, observes, that "persons who had quitted their vessels while lying in the ports of unhealthy countries, and slept on shore, are almost invariably seized with the fatal disease that prevailed in those countries, while those who remained on board kept wholly free from any attack of disease."

CHAPTER XIII.

SYSTEM OF NOSOLOGY,

PROPOSED BY

DAVID HOSACK.

CLASSES OF DISEASES.

CLASS I. FEBRES.
II. PHLEGMASIÆ.
III. CUTANEI.
IV. PROFLUVIA.
CLASS V. SUPRRESSIONES.
VI. NEUROSES.
VII. CACHEXIÆ.
VIII. LOCALES.

SYNOPTICAL VIEW

OF THE

SYSTEM PROPOSED BY DAVID HOSACK.

CLASS I.—FEBRES.

ORD. I. INTERMITTENTES.

1 Quotidiana.
2 Tertiana.
3 Quartana.

ORD. II. REMITTENTES.

4 Remittens biliosa.
5 Remittens infantilis.

ORD. III. CONTINUÆ.

6 Synocha.
7 Typhus vel Synochus.
8 Dysenteria
9 Pestis Orientalis.
10 Pestis tropicus.

CLASS II.—PHLEGMASIÆ.

11 Phlogosis.
12 Phrenitis.
13 Ophthalmia.
14 Otitis.
15 Odontitis.
16 Parotitis.
17 Mastitis.
18 Catarrhus.
19 Laryngitis
20 Trachitis.
21 Bronchitis.
22 Pertussis.
23 Pneumonia.
24 Diaphragmitis.
25 Carditis.
26 Phthisis.
27 Glossitis.
28 Tonsillitis.

29 Pharyngitis.
30 Œsophagitis.
31 Peritonitis.
32 Gastritis.
33 Enteritis.
34 Hepatitis.
35 Splenitis.
36 Pancreatitis.
37 Nephritis.
38 Hysteritis.
39 Cystitis.
40 Urethritis.
41 Orchitis.
42 Proctitis.
43 Phlegmasia dolens.
44 Rheumatismus.
45 Arthritis.
46 Paronychia.

Class III.—CUTANEI.

Ord. I. PAPULÆ.

47 Strophulus.
48 Lichen.
49 Prurigo.

Ord. II. SQUAMÆ.

50 Lepra.
51 Psoriasis.
52 Pityriasis.
52 Ichthyosis.

Ord. III. EXANTHEMATA.

54 Rubeola.
55 Scarlatina.
56 Urticaria.
57 Roseola.
58 Purpura.
59 Erythema.

Ord. IV. BULLÆ.

60 Erysipelas.
61 Pemphigus.
62 Pompholyx.

Ord. V. PUSTULÆ.

63 Impetigo.
64 Porrigo.
65 Ecthyma.
66 Variola.
67 Scabies.

Ord. VI. VESICULÆ.

68 Varicella.
69 Vaccinia.
70 Herpes.
71 Rupia.
72 Miliaria.
73 Eczema.
74 Aphthæ.

Ord. VII. TUBERCULA.

75 Phyma.
76 Verruca.
77 Molluscum.
78 Vitiligo.
79 Acne.
80 Sycosis.
81 Lupus.
82 Elephantiasis.
83 Frambœsia.

Ord. VIII. MACULÆ.

84 Ephelis.
85 Nævus, Spilus, &c.

Class IV.—PROFLUVIA.

Ord. I. HÆMORHAGES.

86 Epistaxis.
87 Hæmoptysis.
88 Hæmatemesis.
89 Hepatirrhœa.
90 Hæmaturia.
91 Menorrhagia.
92 Hæmorrhois.

Ord. II. APOCENOSES.

93 Ephidrosis
94 Epiphora.
95 Otirrhœa.
96 Ptyalismus.
97 Galactirrhœa.
98 Cholera.
99 Diarrhœa.
100 Diabetes.
101 Enuresis.
102 Leucorrhœa.
103 Blenorrhœa.
104 Gonorrhœa.

Class V.—SUPPRESSIONES.

105 Icterus.
106 Obstipatio.
107 Ischuria.
108 Dysuria.
109 Dyspermatismus.
110 Amenorrhœa.
111 Dyslochia.
112 Agalactia.

Class VI.—NEUROSES.

Ord. I. DYSÆSTHESIÆ.

113 Asphyxia.
114 Apoplexia.
115 Paralysis.
116 Amaurosis.
117 Caligo.
118 Dysopia.
119 Pseudoblepsis.
120 Strabismus.
121 Paracusis.
122 Anosmia.
123 Agheustia.
124 Paraphonia.
125 Psellismus.
126 Dysphagia.
127 Anæsthesia.

Ord. II. ADYNAMIÆ.

128 Syncope.
129 Dyspepsia.
130 Satyriasis.
131 Nymphomania.
132 Anaphrodisia.

Ord. III. SPASMI.

a. *In functionibus animalibus.*

133 Tetanus.
134 Neuralgia.
135 Convulsio.
136 Chorea.
137 Epilepsia.
138 Catalepsia.
139 Cephalalgia.

b. *In functionibus vitalibus.*

140 Sternalgia.
141 Pleuralgia.
142 Asthma.

c. *In functionibus naturalibus.*

143 Colica.
144 Nephralgia.
145 Hysteralgia.
146 Hysteria.
147 Hydrophobia.

ORD. IV. VESANIÆ.

148 Amentia.
149 Oneirodynia.
150 Melancholia.
151 Mania.

CLASS VII.—CACHEXIÆ.

ORD. I. MARCORES.

152 Marasmus.

ORD. II. INTUMESCENTIÆ.

a. *Sanguineæ,*

153 Plethora

b. *Adiposæ,*

154 Polysarcia,

c. *Flatuosæ.*

155 Emphysema.
156 Tympanites.
157 Physometra.

d. *Aquosæ.*

158 Hydrops celluraris.
159 Hydrops cerebri.
160 Hydrops spinæ.
161 Hydrops thoracis.
162 Hydrops abdominis.
163 Hydrops uteri.
164 Hydrops ovarii.
165 Hydrops testis.
166 Hydrops articuli.

e. *Solidæ,*

167 Physconia.

ORD. III. VITIA.

168 Rachitis.
169 Fragilitas ossium.
170 Mollities ossium.
171 Lithiasis.
172 Scrophula.
173 Syphilis.
174 Scorbutus.
175 Plica.

CLASS VIII.—LOCALES.

ORD. I. TUMORES.

a. *Hæmatici,*

176 Fungus Hæmatodes.
177 Aneurisma.
178 Varix.
179 Ecchymoma.
180 Hæmatocele.

b. *Adenosi.*

181 Scirrhus.
182 Carcinoma.

c. *Gelatinosi.*

183 Polypus.
184 Ganglion.
185 Hydatis.

d. *Adiposi.*

186 Sarcoma.
187 Encystis.

e. *Osteosi.*

188 Exostosis.

ORD. II. ECTOPIÆ.

189 Hernia.
190 Prolapsus.
191 Luxatio.

ORD. III. DIALYSES.

192 Vulnus.
193 Laceratio.
194 Fractura.
195 Ulcus.

ORD. IV. TYCHICA.

196 Enthesis.
197 Venenatio.
198 Verminatio.

ORD. V. DEFORMITATES.

OF FEVERS IN GENERAL.

The term *fever* has always been used with great latitude, as well by medical writers, as by mankind in general; and it is remarkable that the definitions which different authors have given of it, are exceedingly various. That of the celebrated Cullen, with the others, appears to be vague, imperfect, and fallacious. The late learned Professor Rush, declined the attempt to give any definition, alleging that the disease appears in so many different forms, that a just view of it can only be given in a minute detail of all its symptoms and states. According to Dr. George Fordyce, a fever is a disease of the whole body, affecting the circulating, the absorbent, and the nervous systems, the skin, muscular fibres, membranes, and also the mind. It does not, however, affect the various parts of the general system uniformly and equally; but, on the contrary, sometimes one part is more severely affected than another. An ingenious and sensible writer in the New England Medical Journal, proposes the following definition, in which the new disease termed *petechial or spotted fever*, is intended to be included. "An extensive morbid affection in the blood vessels, or else in their contents; which sometimes discovers itself solely at intervals; and which commonly deranges one or more of the greater functions, as well of the body as of the mind in a manifest manner."

The term *fever* includes a numerous and diversified class of diseases common to both sexes, to every period of life, and to all climates and countries. In the most extensive signification of the term, it is the most general of all the morbid states to which the human constitution is liable. It constitutes in its various forms, according to Sydenham, two thirds of the diseases of mankind. That memorable author calculated, that as large a proportion as eight out of nine of all the victims to disease, are cut off by those denominated febrile diseases. This calculation will not perhaps appear extravagant, if we include fevers of every description both primary and symptomatic. It must appear obvious, that for the practical purposes of the physician, the general application of the term fever, is too vague and indefinite; and as the disease originates from causes essentially different, authors have distinguished fevers into two great classes. Those arising from general causes operating on the body at large, have been denominated *primary*, or *idiopathic*

fevers; while those which depend on inflammation or other local affections of a particular organ, are termed *secondary* or *symptomatic* fevers. In the accurate medical language of the day, the term fever is applied solely to the idiopathic fevers, as in the other class of febrile diseases the state of fever is but a symptom, a consequence of some morbid change of a particular part of the body, which constitutes the primary disease; when this is removed, the fever ceases. But in idiopathic fever, the symptoms are probably independent of any previous organic affection, and are not regulated in their course or termination by the progress or removal of any other disease.

Idiopathic fever occurs under the form of ephemera, (consisting of one paroxysm only,) intermittent fevers, or agues, remittent, and continued fevers: the last of which appear under a variety of types, exemplified in plague, typhus or low nervous fever, yellow fever, &c. "The division which is now generally adopted, is into the three orders of intermitting, remitting, and continued fevers; which are again distinguished by their leading symptoms." The inflammatory is now known by the title of *Synocha*, and the nervous by that of *Typhus*. A combination of these two, constitutes the simple continual fever, or *Synochus* of modern authors. Under the denomination of Typhus, several varieties are comprehended, as *Typhus petechialis; Typhus mitior*, or the nervous fever; *Typhus gravior*, the putrid fever; *Typhus icterodes*, the yellow fever. The new epidemics which have recently visited different parts of our country, termed spotted fever, and typhoid pneumonia, have received a variety of specific appellations. Where in addition to the usual febrile symptoms, there is a redundant secretion, and vitiated state of the bile, occassioning frequent evacuations by vomit or stool, the fever is denominated *Bilious;* but this most commonly, is in the form of a remittent, and in warm climates, or in the hot season of temperate ones, the Billious remittent is often a malignant and fatal form of fever. *Hectic fever* is not considered as an idiopathic disease, but is symptomatic of other diseases, particularly of phthisis pulmonalis, and is a frequent attendant on surgical disorders from the sympathy of the whole constitution, with the disturbed state of a part. The *Brain fever* is that which arises from an habitual use of ardent spirits, or frequent and excessive intoxication.

The term *malignant*, is applied to such fevers as appear in their most aggravated forms; Dr. Tissot terms those fevers malignant

in which the danger is more than the symptoms would make us apprehend, and he compares such fever to "a dog that bites without barking."*

* The following definition of malignancy, is extracted from a letter to the author, by Thomas Miner, M. D. "What is a malignant state of disease? Has the term malignancy any definite meaning in medicine? A great deficiency of muscular strength, an increase, or even a degree of muscular strength which is disproportioned to the other symptoms, excessive pain or spasms, faintness, and gastric sinking, morbid clearness of intellect, great delirium, coma, palpitation, interrupted respiration, *calor mordax*, coldness, numbness, insusceptibility to the action of ordinary rubefacients and epispastics, suffusion of the capillaries, great contraction or dilatation of the pupils, double vision, extreme irritability, or extreme torpor of the alimentary canal and other passages which are lined with the mucous membrane, and also the same irritability or torpor of all, or of either of the organs of sense, excessive exhaustion after ordinary depletion, or evacuations, passive hemorrhages, melænic discharges from the stomach or bowels, all the excretions very fetid, or much less so than in health, very frequent, very slow, very weak and intermittent pulse, sphacelations, petechiæ, ecchymosis, vibices, pestilential carbuncles, buboes, and other eruptions. The early appearance of either of these symptoms, when sufficiently severe, or a combination of two or three of them, makes it apparent to the most superficial observer, that a fever, whether of the nervous or putrid type, is malignant, and highly dangerous. When either of the first two stages* of a fever is wanting, when any essential is symptom is absent, or when it is present in an improper stage, when subsultus, visible pulsations of the carotids, hippocratic face, and other signs of urgency occur unusually early, when any violent or accidental symptom suddenly appears, or when all the stages follow each other in such a rapid succession, that a strong criticial effort supervenes within half the usual time from the attack, the malignancy is equally apparent. But, there is another set of malignant diseases, that are very apparent to the accurate and exeperienced observer, which it is extremely difficult to describe in words, so that they can be easily recognized by the inexperienced or inattentive practitioner. I refer to the insidious cases, in which the symptoms cause so little distress to the patient, that neither he nor the bystanders are willingly to allow, that any danger exists. Such cases, improperly managed, (on the fifth or seventh day, or sometimes as late as the fourteenth, or even the twenty-first,) are ever liable to sink suddenly, and by the time the danger is discovered, the patient is at the gates of death. Perhaps three fourths of the deaths, which occur during the prevalence of a malignant epidemic, are among cases of this description, and the unwary are taken by surprise. Nearly all the symptoms, which are mentioned as attending the sudden and violent cases, and which in them are such prominent signs of a want of vitality, occasionally appear in a very moderate degree; and though neither one of them seems to be in the least urgent, yet there is something in the *tout ensemble*, which can leave no doubt on the mind of the attentive observer, that there is something latent, that there is a hidden ambush, that extreme danger is lurking behind; and more especially this is the fact, when sudden malignant cases are common, when a peculiar diathesis prevails at the same time. It is

* Every regular fever, that runs its whole course has three stages—The forming stage, the stage of reaction, and the stage of exhaustion; besides, there is often a stage of predisposition, and a stage of convalscence.

Notwithstanding the great prevalence of fever in all ages and climates, and the universal attention which it has excited among medical observers ever since the days of Hippocrates, the disease still remains the subject of much discussion; and its essential nature, or the proximate cause of its symptoms, is still a problem in medical science. We may suppress our surprise at this circumstance, however, when we consider the almost endless varieties under which fever occurs: so various are its modifications, that of those fevers which are nominally the same, scarcely any two instances accurately resemble each other; and of all the symptoms which constitute those varieties, not one can be found which is invariably present in every case, not one, therefore, which can be considered as pathognomonic or characteristic of the disease.

Causes of Fever.

The causes most generally productive of fever, are those agents or incidents, which induce debility or suppression of strength in the system; the principal of which may be contagion, this if applied in a certain degree, is of itself capable of inducing fever in any constitution. Contagion may originate from marsh miasmata, or human effluvia eliminated from diseased bodies, or even from those in health, if confined in warm, close, and uncleanly apartments; and contagion from this source may spread rapidly through whole families and neighbourhoods. Dr. G. Fordyce relates an instance where seven out of nine, who approached near a person affected with fever, were seized with the same disease in the space of three weeks afterwards. Dr. Haygarth from the result of experiment asserts, that not one in twenty-three, or even one in

---

this variety that Tissot compares to "a dog that bites without barking." There seems from the very access of the disease, to exist a state analogous to that of apoplexy or palsy, or to the factitious diseases produced by excessive quantities of narcotics, essential oils, lead, or mephitic gases—an almost total extinction of the vital principle—the patient appears to be but half alive from the very onset—there is a derangement *sui generis* of the powers of life, attended with a difficulty of changing the morbid condition by common means, and an insusceptibility to the action of ordinary existing and supporting remedies, in ordinary doses or quantities." Dr. Miner expresses in strong languge his opinion that a distinction between the *malignant* and the *non malignant* in acute diseases, is of great importance in practice, especially during the prevalence of severe epidemics. He sums up the whole in a few words—"A malignant disease, is one in which there is a peculiar deficiency of vitality, attended with an insusceptibility to the curative action of ordinary exciting and supporting remedies, in ordinary doses and quantities."

thirty-three, escapes infection, when exposed for a sufficient length of time, and that as many persons are liable to receive typhus as the variolous contagion. We find an instance recorded in New-Eng. Med. Journal, Vol. I. p. 228, from Dr. J. A. Allen, State of Vermont, of three persons having died in one house of Typhus gravior. The weather being unusually warm, the corpses of the two last suddenly run into the putrefactive process, and not being deposited in coffins sufficiently close, the effluvia evolved was very offensive to the people who attended the funeral ceremonies. Nearly all who were exposed to those septic gases had an attack of the disease; and from the sick, it was communicated to their attendants through the season, and thus it became epidemical. The interim of time from exposure to an attack, was from ten to twenty-one days.

Other causes are depressing passions of the mind; fatigue from long continued exertion; immoderate study, or other close application of the mind, especiaily if encroaching on the hours of sleep; damp and night air; indigestible food, or other substances affecting the intestinal canal; exposure to extreme heat and cold; excess or sudden suppression of usual evacuations, and intemperance in the use of spirituous liquors. One or more of these causes must be applied under certain conditions of the body in order to produce fever. But it frequently happens that febrile diseases supervene without any of the foregoing circumstances having been known to precede them; and, on the contrary, persons may be exposed to many of the causes, and yet escape the consequent fever.

Symptoms.—There is no one symptom invariably characteristic of fever. Neither chilliness nor heat uniformly precede its accession, and we can therefore obtain a knowledge of its existence and nature only by an attentive observation of the concourse and succession of the symptoms. "The pulse is exceedingly various, it may be small, weak, slow, contracted and unequal, or it may be strong, quick, full, and regular; hard or soft, according as the fever is at the commencement, increase, height, or in the remission and termination; or as the genus and nature of the fever may chance to differ. So also the heat may be equally diffused, or confined to particular parts: sometimes the external parts are cold, with a sense of internal heat, at others, there is general heat or cold over the body; and sometimes the heat is not greater than

what is natural. Sometimes the face is pale, and at others it is red or swelled; now it has the natural look, and now the reverse of this. The eyes are heavy languid, and sad; or red, and impatient of light; they are prominent, distorted, or wild; shining, dull, or ghastly; sometimes bedewed with tears, and deprived of their usual lustre. The tongue is generally dry, chapped, scabrous, red, white, or variegated; often covered with mucus, but not unfrequently moist and natural, without any thirst. The breathing is frequent, hot, unequal, or impeded; the breath often offensive. The appetite is usually extinct, but in a few instances some desire for food remains. Sometimes the urine is crude and watery; at others red and thin; or often thick, soon becoming turbid, and depositing a sediment; sometimes it is of a natural appearance. To these symptoms are added, pains in different parts of the body; depression of strength, and watchfulness, or on the other hand, heaviness, stupor, or imbecility of mind; delirium; diarrhæa, or constipation; vomiting; tension of the hypochondria; subsultus tendinum; emaciation, and other affections, arising with the fever itself, or gradually supervening to it. Besides the ordinary febrile symptoms of hot skin, irritated circulation, foulness of the tongue, thirst, and deficient or irregular secretions, preceded by lassitude, heaviness, listlessness, and rigours, there are pains in the head, generally of the throbbing kind, and extending along the continuation of that portion of the brain which is lodged in the channel of the spine; increased heat of the head, even though the extremities be cold; unusual throbbing of the arteries in the temples and neck; suffusion of the eyes, and an altered expression of features, easily observed, but difficult to be described, together with disturbance of all the functions immediately belonging to the brain. If to these be added irregularity in regard to sleep and watching, which, though common to many diseases, belongs in a peculiar manner to the one under our investigation, we shall have characters always sufficient to enable us to detect the presence of fever in the system, and affording at the same time the clearest indications of its nature. It is only from a diligent examination of these appearances conjoined together, that we are enabled to judge of the presence or absence of fever; not from any of them taken singly. By making a general assemblage of the symptoms, we may venture to call it a disease which affects every part of the body, and in which there usually prevails a difficulty of performing some of the vital and animal functions."

Cure.—A fever begins gradually, and progresses to a certain point, and continues in that degree for a certain period of time, after which, unless it terminates fatally, or by a perfect crisis, it gradually diminishes, and goes off without any cause which has yet been explained. The critical days observable in continued fevers, as supposed by authors, are the third, fifth, seventh, ninth, eleventh, fourteenth, seventeenth, and twentieth. "The symptoms pointing out the approach of a crisis, are, the pulse becomes soft, moderate, and near its natural speed; the tongue losing its fur and becoming clean, with an abatement of thirst, the skin being covered with a gentle moisture, and feeling soft to the touch; the secretory organs performing their several offices, and the urine depositing flaky crystals of a dirty red colour, and becoming turbid on being allowed to stand any time." The first object in the cure is to supersede or arrest the febrile affection, if possible, in its very commencement, by exciting another commotion in the system. The two most efficacious remedies for this purpose are *emetics*, and the affusion of cold water over the body. If an active emetic be administered during the continuance of the chills, and free vomiting be excited, the cold fit is often speedily terminated, and a general glow, accompanied with a degree of perspiration, is produced. Or if the emetic be delayed until the hot fit have commenced, its operation is frequently followed by a relief to all the symptoms, the fever is prevented from proceeding, and the patient is left with a slight degree of weakness only, from which he recovers in two or three days.

Affusion of Cold Water.

Affusing the body with cold water as a remedy in fevers, is a practice for which we are indebted to Drs. Wright, Currie, and Jackson. Dr. Currie instituted numerous experiments, by which he ascertained, in the most satisfactory manner, the species and forms of fever, and particular circumstances in which the remedy can be employed with safety and success. He extended his trials to almost the whole class of febrile diseases, and established his principles. In typhus mitior, and typhus gravior, as well as other low contagious fevers, we have the authorities, not only of the gentlemen above mentioned, and Dr. Thomas, but many of the most eminent physicians of the United States, to assert, that cold

water applied to the body under certain restrictions, is a safe and very efficacious remedy. It is capable of making a strong and general impression on the system, by which the progress of fever is often arrested, if employed early, or during the first stage; but proper evacuations from the stomach and intestines, and by the lancet, if required, should always be premised. Dr. Currie prefers the afternoon or evening, during the paroxysm, or exacerbation, for the application of the remedy, thinking it most safe, as well as most useful, at the height of the fit, or immediately after it has begun to decline. But, he says, the remedy may be safely used, *when there is no sense of chilliness present, when the heat of the surface is steadily above what is natural, and when there is no general or profuse perspiration;* which, he observes, are particulars of the utmost importance. Under circumstances the reverse of these in any one respect, the application of external or internal cold, is inadmissible and actually unsafe. During the cold stage of the fever, cold water nearly suspends the respiration, greatly disturbs the pulse, increases the chill, and seems to bring on the struggles of death; and really would do so, if repeated. It should be an established rule in every case, that the cold affusion is not to be resorted to until the hot stage of fever is completely formed, until the heat has become steady and equal over the surface and extremities, and exposure to slight cold no longer excites shivering, or renews the sensation of chilliness. When this stage is established, the greater degree of cutaneous heat and dry skin, the safer and more beneficial the application of cold water. Perspiration, diminution of heat, of head-ach, of thirst, and of frequency of pulse, and a disposition to sleep, are the general results of this operation at any period while the dry heat continues; but before the end of the third day these results are frequently final. "On the first and second days, the disease often instantly vanishes with one aspersion; and sometimes on the third day; but on the fourth day this is rare. Each aspersion, however, instantly removes the symptoms; and a few repetitions of it on the successive returns of the paroxysms, in two or three days happily terminate the disease, with none or trifling aid from medicine." Where, in the advanced stage, the heat of the body is reduced, and the debility considerable, some cordial, such as wine warmed with the addition of spice, or an infusion of snake-root with a little brandy, should be given immediately after the affusion. The

mode of applying cold water, varies according to particular circumstances. In the early stage, before much debility is induced, the whole body is sometimes immersed in the water, or the water is thrown forcibly from a pail, or falls from a height over the head and body in the manner of the shower bath. When employed in the advanced stage, aspersion, or ablution with a sponge is deemed more safe and eligible. On some occasions, the patient is wrapped in a blanket or sheet thoroughly wet with cold water, and often renewed. In each of these modes, the application is grateful and refreshing, and seldom fails to reduce the febrile heat, and materially to meliorate the patient's condition. But the advantages of affusion over those of simple ablution, are supposed to be in general very considerable. The application of this remedy must be repeated three or four times in the twenty-four hours, according to its effect and the recurrence of the hot fit; the patient being exposed to the cold air, and afterwards wiped dry, and replaced in bed. But in every case, the operation should be so carefully conducted, as to occasion the patient as little fatigue as possible. In the advanced stage of fever, either the cold affusion may be employed, or the surface of the body washed by means of a sponge, with cold or tepid water, or tepid water may be used by affusion, observing all the precautionary rules already stated in regard to the application of cold water. The tepid affusion, the water being lukewarm, or from 87° to 97° of Fahrenheit, produces a cooling effect equal to that of cold affusion, partly in consequence of a more speedy evaporation, and partly because so great a glow, or re-action, does not succeed. The important object of diminishing heat, therefore, may be obtained with great certainty by the repeated employment of the tepid affusion, suffering the surface of the body to be exposed in the interval to the external air. A diminished frequency of the pulse and respiration, and a tendency to repose and sleep, immediately ensue, though its effects are not so permanent as those of the cold affusion. It must be remarked. in those cases of fever where the lungs are oppressed, and the respiration laborious, the sudden stimulus of the cold affusion might be dangerous; in such case, considerable benefit may be derived from the tepid affusion, or by sponging the surface with warm water, or vinegar and water. Besides typhus mitior and typhus gravior, this energetic remedy has been found applicable to intermittent and remittent fevers, for abstracting ex-

cess of heat, where no catarrhal symptoms, or inflammatory affection of the lungs are present; in yellow fever, eruptive fever of small-pox, and in scarlatina. A mercurial course, or even a salivation, or eruptions on the surface of the body, are said to be no obstacles to the cold affusion.

The effects of the two active agents just mentioned, emetics and the cold affusion, in interrupting the train of febrile action in its commencement, are generally aided by diluents, diaphoretics, and cathartics. The perspiration should be encouraged only by the exhibition of small doses of some preparation of antimony, or the neutral salts, and by the free use of tepid aqueous liquids. The confinement of animal heat around the body by heaping a load of bedcovering over the patient, is a pernicious practice, under these circumstances, tending directly to counteract the effect of the remedies. If the means already mentioned have not been employed within the first three days, or at the utmost until the fourth day of fever, or if they have failed to arrest the progress of the disease, it will then proceed through an indefinite course, which medicine has not often the power to interrupt.

In the progress of continued fever, the vital actions are productive of danger chiefly, from exceeding their ordinary degree of rapidity or strength, on the one hand, or from falling short of it, on the other. "The two leading indications of cure, therefore, are, 1st. To *diminish* those actions and changes which are in *excess;* and, 2nd. To *increase* those which are *defective.*" The first indication is to be effected by withdrawing or diminishing those iritations, or stimuli, which are constantly applied to the body in one degree or other, and actually excite the actions of life, or which are more particularly the consequences of the febrile state. The avoiding these as much as possible, or of moderating their force when that is impracticable, constitutes what has been called the antiphlogistic regimen, which it is requisite to pursue in almost every continued fever. It is proper to exclude the light, and noises of every kind, and to adapt the bed to the ease and comfort of the patient, carefully, however, guarding against the impression of external heat and confined air. The impulse of nature inclines to stillness, to darkness, to a cool, well ventilated chamber, and the constant use of cooling and acidulated drinks. The observance of these particulars is so obvious and natural a method of affording relief to those who suffer from heat, that deep-

rooted prejudice alone could have prevented their being universally adopted. Another error, both unpleasant and prejudicial to the sick, is that of permitting the apartment to be encumbered with a crowd of idle visitors. We have seen flushing of the face, tremors, and twitchings of the tendons, delirium, and the whole train of symptoms greatly aggravated, by the presence of a few individuals. The respiration too, of a crowd of people, heats and vitiates the air, by which fevers are rendered more malignant and infectious. It is from this cause that febrile diseases are frequently communicated, and whole families in succession involved in the same calamitous situation. The state and condition of the skin, or external surface is to be regarded as of primary importance, and ought to receive more attention, than in general, practitioners have been accustomed to bestow. When morbid heat superabounds, it should be counteracted by the application of cold, that great sedative agent, as already detailed, and by the judicious administration of diaphoretic medicines, and diluting drinks, avoiding, at the same time, external heat, and every thing of a stimulating nature. If on the other hand, the cutaneous vessels are in a state of collapse or torpor, and the heat of the body below the natural temperature, every attempt should be made to equalize the excitement throughout all the vessels of the system, by means of artificial heat repeatedly applied to the surface, and by the internal administration of suitable cordial diaphoretics.

The celebrated Dr. G. Fordyce, whose good judgment, and extensive practical knowledge entitle him to the highest confidence, after having premised an emetic, constantly employed a solution of tartarized antimony, with the view of arresting the course of continued fevers in their early stage; and he asserts, that in one half, or certainly in one third of the cases, he has seen symptoms of a crisis arise in less than five hours after the exhibition of the medicine, and in less than twelve hours, the fever has often ceased altogether.

The sensation of thirst frequently occasions considerable irritation in fevers, and in this instance as in that of extreme heat, the instinctive feelings of the patient direct him to the source of relief; to simple diluent drink in the one case, as to exposure to cool air, or immersion in water in the other. The safety and advantage of indulging these instinctive propensities of the constitution, is fortunately corroborated by observation and experience. The

safety and utility, however, of cold drink in fevers, are dependent on the same principles, and its administration is to be regulated by the same rules, as the external application of cold; namely, that when there is a steady heat of the surface, without any sense of chilliness, or a general perspiration, it is safe and salutary, and attended by similar effects though generally less in degree, than those of the cold washing.

Another irritation which it is requisite to avoid in fevers is *motion*, especially that which requires the exercise of the muscles, and it must be observed, every motion of the body is more stimulant and exhausting, in proportion as the body is weaker. Hence, that posture is to be chosen which employs the fewest muscles, and which keeps none of them long in a state of contraction.

The exercise of the mind, also, adds much to the excitement of the body, more especially when there is considerable debility, as in fever, and when, therefore, the exercise of the mental powers requires more exertions on the part of the patient. Hence, as soon as a febrile attack has come on, every circumstance that can lead to thought, and especially to anxiety about his disease, or to excite passion, or emotion, should be carefully avoided; and all unnecessary attendants or visitors should be excluded from his presence.

A very important part of the antiphlogistic regimen, relates to the nature and qualities of the food and drink, to be given to persons labouring under fever, particularly in the early periods of it. The presence of recent aliment in the stomach, always proves stimulant to the system, and the irritation ought to be moderated as much as possible, consistently with the safety of the patient. Total abstinence from food, for the first few days of continued fever, was much practised by the ancients, and in many instances very successfully, by the best modern physicians. No solid animal food ought to be given during the existence of continued fever however slight. The effect of such food is to increase the heat, the frequency of the pulse, and respiration; to excite great restlessness, and a sense of uneasiness, and to augment the depression of strength during the time that it remains in the stomach and intestines. In short, it totally deranges the fever, and often produces the appearance of a fresh paroxysm. It brings on delirium, and in every way aggravates the danger of the disease. Even after the disease has been terminated by a crisis, animal food in a

solid form, should be rejected, there being no cause which has produced relapses so frequently as using solid animal food too soon. The most proper nourishment in fever, consists of light fluid vegetable matters: such as the decoctions of barley, the seeds of oats or other farinaceous grain; the various forms of vegetable starch, which are prepared under the names of sago, tapioca, arrow root, &c. answer the same purpose of furnishing aliment, which gives the least disturbance to the organs of digestion. In regard to the nature and quality of the drink, which is proper to be given to persons labouring under fever, the principle of avoiding irritation or excitement of the arterial action, is to be constantly kept in view, at least in the early stages of fever. When there is considerable heat of the body, water from the spring is generally most grateful to the palate of the patient; and is not perhaps to be excelled in wholesome qualities by any combination of art. If more agreeable to the patient, toasted bread, sage, or balm, may be infused into it; but the vegetable acids of every description will prove both pleasant and useful. All fermented and spirituous liquors, as directly stimulant to the system, should be interdicted during the early and middle stages of continued fever, of whatsoever denomination. The absurd practice of resorting to the use of vinous liquors, on the supposition that fever is a disease of mere debility, and that stimulants are requisite at the first occurrence of fever, is often attended with fatal effects. A collection of crude and indigested food in the stomach, and of fæces in the intestines, are causes of irritation, and require to be removed in all cases of fevers.

Of Venesection.---With the view of fulfilling the first indication of diminishing excessive action in the system, we must have recourse to evacuations of the circulating fluids directly, or of the secretions from them, through their respective emunctories. The first, and most important to be considered, is *blood-letting*, as a diminution of the quantity of the fluids must be the most direct means of diminishing the activity of the sanguiferous system. But a cautious and deliberate consideration of innumerous and variant circumstances, is requisite in determining on the propriety of abstracting blood from the general system in fevers, since the diminution of that fluid which is the immediate pabulum of life, cannot be a matter of indifference to the constitution: if it be the most powerful means of influencing the vital actions, so it is the most dangerous,

when improperly employed; if the most effectual in diminishing excitement, it is consequently the most apt to exhaust the vital energy. We have no infallible index to direct us, it is impossible, from the state of the circulation in fever, to point to any certain criterion for the employment of the lancet; the state of the pulse is often ambiguous and deceptive. Even in the most malignant fevers, the pulse is frequently so little affected as to afford no information relative to the propriety of venesection. It may be such as to contra indicate bleeding, at the moment when from local congestion of some vital organ, the existence of the patient depends on the evacuation. The pulse in the early stage of fever is often small, low, feeble, and irregular, or laborious and oppressed, until relieved by evacuations; when re-action takes place, the pulse rises and becomes fuller and more equal. It may be strong and forcible in the heart and large arteries, yet feeble and languid in the extremities. These circumstances require the nicest discrimination, as the result is often very different in cases seemingly analogous. A precipitate decision is fraught with danger, and a mistake may be certain death. In pure inflammatory fever, or synocha, blood-letting may in general be resorted to with great advantage, but in typhus, which is the fever most prevalent in our climate, under all its modifications and forms, is attended with great general debility, and as exhaustion of vital energy soon ensues, it is obvious that to diminish the quantity of the vital fluid, must be to increase that dangerous state of the system which accelerates the fatal termination. Various, therefore, are the circumstances to be taken into view, and great is the diversity of opinion to be examined, in order to a right decision of this difficult point in practice. Much of the beneficial effects which the lancet is capable of affording, depends on the correct ascertainment when it is most proper to employ it. In general, venesection should be resorted to within the first twenty-four or forty-eight hours of the attack, and repeated at short intervals until the symptoms abate. If, in the early stage, there be increased heat, and the pulse hard, full, tense, or corded, and above one hundred in a minute, firm, and equal, blood-letting will certainly be proper, and, if at the same time the heat and inflammatory action be violent, with laborious respiration, and signs of considerable local congestion, the evacuation becomes of indispensable importance. But whatever may be the opinion of the cautious and discerning practitioner, relative to the

abstraction of blood from the general system, it will be admitted that local blood-letting by means of leeches or cupping, is often of great advantage in certain conditions of fever, more especially in relieving local congestion of blood in the head, and the symptoms thence resulting. Thus, when there is much head-ach, or delirium, accompanied by flushing of the countenance, and redness of the eyes, the application of a few leeches to the temples, or the scarificator and cupping-glasses to the same part, or to the nape of the neck, has often diminished the symptoms; sometimes carried them off entirely, and arrested the progress of the fever. *Sweating* is another mode of diminishing vascular action in fevers. The natural effects of sweating are a general increase of all the secretions, the tongue becomes moist, spasm is relaxed, excessive heat is allayed, and the skin is softened. But it is in the forming state only that artificial sweats are useful in fevers. After they are completely formed, sweats are generally hurtful, and when excited by stimulating medicines, a load of bedclothes, and a heated atmosphere, their beneficial effects do not occur; but the heat, thirst, and general excitement are increased, as well as the head-ach, anxiety, and difficulty of breathing; and the very reverse of the indication of removing irritation, and diminishing excessive action, is the consequence.

In general, the most advantageous perspiration is produced by the opposite plan, viz. by cooling the body, and diminishing excitement, in which case it approaches more to the spontaneous sweating which accompanies the natural solution of fever. The principal medicines now employed for the purpose of exciting perspiration, are, the alkaline salts with the vegetable acids, and the preparations of antimony with diluent drinks. But although antimonial preparations are more certain in their operation on the skin, they are chiefly useful in those cases where the vital energy is not diminished; for when considerable debility is present, they frequently fail of the desired effect, and occasion a dangerous diarrhœa.*

* There is an eligible mode of exciting a sweat, and of applying artificial heat to the surface, as follows: Take a quantity of hemlock or pine twigs and leaves, moisten them a little, but not so much as to damp the bed linen; heat a stone or brick quite hot, and surround this with the twigs wrapped in a cloth. Apply these to the feet, the sides, or armpits, while the patient is moderately covered, and confine the steam or vapours by the bed clothes until the desired purpose be effected. See a description of Jennings' Steam Bath, in this work.

Purging, so far as to empty the bowels of indigested aliment, or feculent matters remaining in consequence of the weakened peristaltic motion, we have already said, is useful, by removing a troublesome source of irritation. The removal of the dark and offensive matter which in many instances is accumulated and corrupted in the alimentary canal, is a most important point in the cure of fevers. Head-ach and delirium have often been removed by a moderate cathartic, and in some instances in which the fever had been preceded by considerable constipation, a brisk cathartic or two have appeared to remove the symptoms altogether. It is, however, to be recollected by the young practitioner, that an active purgative during a state of extreme debility, may be productive of great mischief, and in the last stages of contagious typhus, even the mildest cathartic operation has occasionally produced a dangerous sinking of the vital powers. *Blisters* and *rubefacients* to the skin have been resorted to as a remedy in fevers, and by a majority of the profession the practice is conceived to be of no inconsiderable advantage. Blisters are decidedly beneficial in relieving local pains and congestions; and every practitioner has experienced their utility, when the brain, stomach, lungs, &c. have been thus affected.

In fevers attended with coma, or delirium, they are often employed with advantage, being applied over the shaven scalp, for the nearer they are applied to the part affected, they are the more powerful in giving relief, like all other local remedies.

The second indication is, "to increase the actions that are defective." The symptoms which occur in the latter stages of the disease, are principally the result of a general failure of the vital power, or nervous energy; and such a failure is the necessary result of the previous over-excitment, and the privation of the ordinary means of support, from aliment, sleep, &c. Hence the means of preventing this failure of life, consists partly in fulfilling the first indication, or diminishing the over-excitement, and partly in using those remedies which tend to support and increase the vital actions, when the symptoms of their failure appear. It must be obvious, therefore, that the early employment of stimulants, cordials, and tonics, with the view to obviate debility, must be extremely pernicious. Some who practice by rote, on the first onset of fever, exhibit in liberal quantities, wine, Peruvian bark, and various cordials, regardless of the period and circumstances of the

disease, and thus accelerate that debility, the consequences of which they are most anxious to avoid. This mode of treatment cannot be too strongly reprobated, more especially when there are symptoms of considerable local congestion in the head or other parts.

When, however, the symptoms of exhaustion and defective action begin to appear, it becomes requisite to administer those remedies which possess a stimulant power over the actions of the arterial and nervous systems.

Those medicines which are known to possess strong sensible qualities, and excite an obvious and immediate action, as wine, or alcohol, spirits, volatile alkali, and ether, are denominated stimulants. A great variety of these have been employed for the purpose of obviating debility in the late periods of continued fever; wine is the most grateful and efficacious, but this, according to Dr. Gregory, has been given in too large quantities, sometimes to the amount of two or three bottles in the day. Although the strength may be speedily roused by powerful stimuli in large quantities, the new excitement is immediately followed by a fatal inflammatory condition of the brain. Perhaps a pint of wine in a day should not in general be exceeded, unless some cases of violent putrid fever be excepted.

Tonic medicines, are those which slowly, and by repeated exhibition increase the power and force of the actions of the animal body, or the tone of the moving parts. They are cinchona, cascarilla, thoroughwort, and other vegetable bitters, the metalic salts, and preparations of iron. The principal tonic medicine that has been employed in continued fever, is cinchona, or Peruvian bark: but experience has evinced that this remedy is too often detrimental, especially when the tongue remains foul, the pulse frequent, and the skin not yet become soft, cool, and moist. But according to Dr. Fordyce, the relaxations which began to take place in the disease, have been much diminished, the pulse has become more frequent in the morning, the head-ach and confusion more considerable, the skin drier, the tongue more furred, the oppression upon the præcordia, and the difficulty of breathing increased, by a few doses of cinchona untimely administered. Where there are marks of congestion in the head, lungs, or other viscera, the administration of bark is at all times to be deprecated; it is in fact seldom beneficial in continued fevers, unless in those cases where there is

an obvious remission and exacerbation, when it may be employed with safety and advantage. But it is most useful in restoring the strength in the convalescent state, when the symptoms of fever have altogether disappeared. Musk and castor, have been frequently given in the last stage of fever, but Dr. Gregory considers them as no further active, than by their strong impression on the senses, and much less efficacious as antispasmodics, than wine and opium. The serpentaria, or Virginia snake-root, carbonate of ammonia, and other cordial and aromatic substances, are often administered in low fevers with advantage.

The prevention of putrefaction in the last stages of infectious fevers, is principally effected by the means already enumerated. The putrefactive tendency is chiefly the result of extreme prostration of strength, and as the presence of the excretions of the patient, and all other filth augment the depression of the vital powers, the utmost attention to cleanliness is of great importance; and a constant ventilation to free the air of the chamber, from the noxious exhalations, contributes much to the support and comfort of the patient, and is conducive to the preservation of the attendants. The putrid sordes which accumulates in the stomach and bowels, should be frequently evacuated by such gentle means as will not occasion a further exhaustion of the patient's strength. With a view to correct or obviate putrescency, the mineral acids are commonly directed, and as tending to quench thirst, to settle and comfort the stomach, and as being grateful to the patient, these should be liberally administered in all cases of fever.

According to the opinion of Dr. Reich, a Prussian physician, and the late Sir William Fordyce, corroborated by the observations of Dr. Thomas, author of modern Practice, the muriatic acid in particular, in all febrile diseases of a malignant nature, has proved eminently efficacious, and merits the preference of all other acids.

Of Mercury.

A few brief observations relative to the utility and efficacy of mercury, as a curative remedy in febrile diseases, have been reserved for this place.

The employment of this metal has become not only familiar in the hands of every practitioner, but received the sanction of the

highest medical authorities in our country; nay, some have even dignified it with the appellation of specific, in fevers of a contagious character. For more than half a century, mercury has been a favourite agent with a certain class of reputable physicians in New-England, for the cure of fevers of almost every description. The ravages of the yellow fever, and other malignant febrile affections in our cities and seaports, of late years, naturally arrested the attention of our most able and intelligent physicians, who zealously exerted their talents to the object of devising a remedy adequate to the formidable foe. In this investigation, the late Dr. Rush was a distinguished champion; he commenced and prosecuted his inquiries with a solicitude, and sense of duty, worthy of his benevolent and exalted character. Surrounded by innumerable suffering objects, affected with the new epidemic in 1793, his situation was peculiarly propitious to a correct investigation of its nature and character. Having experienced the palpable inefficiency of all the known curative remedies, he was induced to adopt the depleting plan, and boldly resorted to the lancet, and to mercury. This medicine he at first employed with the intention of evacuating the intestinal canal of its irritating contents, and the result was the fullest conviction of the correctness of his judgment. When at subsequent visitations of the epidemic, the liberal employment of the lancet was deemed inexpedient, mercury was resorted to as the sovereign remedy, and its powers have since been tested in the most extensive manner. The plan adopted by professor Rush, was found to accord with the opinions and practice of Dr. Chisholm and other respectable physicians of the most extensive experience in the yellow fever of the West Indies. (See page 18.) The utility of the mercurial practice, as applicable to the various forms of fever, being abundantly substantiated, it has been received and adopted, by the generality of our medical professors and practitioners, as the most successful method of treatment. The forms of administration are various; on some occasions calomel is combined with jalap or rhubarb, as an active purgative, but it is considered in general, essentially important that its action should be extended to the system at large, and affect in a greater or less degree the salivary glands. With this view, from one to three grains of calomel are directed every four or six hours, and the course persisted in until its effects on the system become evident, by a moderate ptyalism, and the more speedily this is produced, the greater is the

certainty of a cure. Opium is frequently combined with calomel, in order to prevent its irritating effects on the stomach and bowels. Mercury has been given at the commencement, and in all stages of fevers, but the discerning physician will be particularly attentive to its operation, when in the advanced stage of typhus, the strength is greatly prostrated, and the vital powers much exhausted, lest it be productive of fatal consequences. The action of mercury, according to the theory of the late Dr. John Warren, is to be ascribed to its stimulant power, by imparting oxygen to the system, and by changing the existent diseased action. Such is the diversity of circumstances in different examples of fever, and so great is the uncertainty of the effects of mercury on the system, that no precise rules for its administration can be given or regarded. In some instances, a few small doses will effect a solution of the fever, while in others, no quantity within the limits of common prudence will either produce a salivation, or in any manner induce the desired salutary consequences. It is obviously important, therefore, that none but experienced and judicious practitioners, should be permitted to conduct a mercurial course in fevers. When from an irritable state of the stomach, or other cause, mercury cannot be introduced into the stomach to such extent as to answer the immediate intentions, it has been applied to the surface of the body by inunction, and injected into the intestines by way of clyster, in either of which forms, salivation may be produced, if required, but in fevers this should always be avoided.

The utility and efficacy of the affusion of cold water, the muriatic acid, and of mercury, is corroborated by the experience of the late professor Warren, in some instances of typhus fever in Boston which he related to me, and which are recorded in his very lucid and excellent performance on Mecurial Practice. In this will be found a rich fund of information, and such substantial facts relative to the subject on which he treats, as must enforce conviction on every candid mind.

The author of an interesting performance, entitled, Sketches of the Epidemic Diseases of Vermont, objects to the employment of mercury as an alterative in fevers, on account of its stimulant effect, though he admits that as a purgative, calomel may often be given with advantage. "The mercurial mania," he observes, "has spread like a pestilential influence, and we should be happy if it could be said with much less malignity." With the best intentions, Dr.

Gallup, from an excess of zeal may have descanted on the worst side of the question only, by attributing to mercury many dangerous qualities which in fact are owing to a great diversity of circumstances. He may not have been conversant with that malignant form of fever which has so frequently baffled the skill of the most experienced physicians in our cities, resisting the influence of every other power, save the supremacy of a mercurial course. It may not have fallen under the immediate observation of this gentleman, that yellow fever and all diseases accompanied with visceral inflammation, especially when the liver is the organ affected, yield with more facility to preparations of mercury than to any other remedy. This fact has been so clearly substantiated as scarcely to require additional demonstration. Had this gentleman experienced the liberal use of mercury as practised by his learned brethren in our cities, he might have perceived with Dr. Rush, that, "on salivation taking place in typhus fever, the pulse becomes full and slow, with evident relief." Nor is it believed that in his serious moments, he would have referred his readers to the "tragi-comedy called the *mercuriad*, for a burlesque" on one of the most invaluable remedies in the Meteria Medica. See his work, p. 222.

Mercury, it is universally conceded, operates by its stimulant powers, but from its successful employment in judicious hands, we are warranted in the inference, either that stimulants often produce salutary effects in fever, or that mercury imparts to the system some other property by which the secretions are opened, the action of the absorbent vessels increased, and the equilibrium of the circulations restored. That a long continued use of mercury tends to induce prostration and debility, the most zealous advocates for the practice will not deny; nor that the indiscriminate employment of it, especially in the last stage of typhus fever, is to be considered as an abuse of the medicine and altogether inadmissible.

This subject will now be dismissed by quoting the concluding paragraph of Dr. Warren's excellent treatise.

"No instance, I believe, has ever been afforded within the whole compass of medical experience, of a medicine of equal activity, having been so thoroughly tested in different countries, and in all forms and degrees, as mercury. If so destructive to the constitution as some have represented, it would long since have been condemned by the experience of physicians in those countries in which

it has been most exhibited. That salivation increases the irritability of the system, and may sometimes have laid the foundation of chronic disease, may be admitted; though a suspicion of it ought not to prohibit the use of it as an excellent remedy in some of the above diseases in the hands of the skilful. But this circumstance should be improved to enforce caution in practice."

Consistently with his views of discarding stimulants in fevers, Dr. Gallup has condemned in strong terms the employment of *opium* in any form. Although the stimulant powers of opium are well known to every practitioner, the administration of it has been sanctioned by the highest authorities; and Dr. Rush, that very accurate observer, emphatically said, "that those physicians enjoy but little pleasure in practising physic, who know not how much of the pain and anguish of fevers of a certain kind may be lessened by the judicious use of opium." However improper the stimulant effects of this drug may appear, under circumstances of high inflammatory action, it will not readily be dispensed with in fevers of a low type, by those who have experienced its many advantages in mitigating pain and anguish, inducing repose, allaying irritation, and restraining evacuations.

As there are distinct kinds of fever, each requiring a different mode of treatment, and as much depends on the ability of the physician to discriminate between them, without which such errors may be committed at an early period, as to render all subsequent attention and skill unsuccessful, we shall proceed to discourse in the ensuing chapters, on the different species, and to point out the appropriate method of treatment.

Class I.—FEBRES OR FEVERS.

Order I.—INTERMITTENT FEVERS OR AGUES.

This fever, in its most regular form, consists of repeated paroxysms, the patient during the intermediate period enjoying apparently a state of good health. From the shivering which commences the fit, the disease has been called *ague*, and when it recurs every day, it is termed a *quotidian*, when every alternate day, or once in three days, forty-eight hours intervening, a *tertian*, and when on the fourth day, with an interval of seventy-two hours, it is called a *quartan*. The common people denominate the *quartan* a *third day* ague, and the *tertian*, a *second day* ague, but as physicians reckon the day on which a disease commences the *first*, and the third day after, the fourth of the disease, the above terms are correctly applied.

When these fevers arise in the spring of the year, they are known by the name of vernal, and when in autumn, they are called autumnal. They often prove obstinate, and are of long duration in warm climates; frequently resisting every mode of cure, they degenerate into other chronical diseases, particularly dropsical swellings and enlargements of the liver or spleen. From a peculiar susceptibility induced in the system by this fever, the patient is liable to repeated renewals of it during a long period when exposed to the influence of the original exciting causes. Vernal agues most readily yield to medicines, and the tertian is the most common and easily cured.

The miasmata or effluvia arising from putrid stagnant water, or marshy ground, when acted upon by heat, occasioning putrefactive decomposition, is generally acknowledged to be the most frequent cause of this fever. This is evident from its prevalence in rainy seasons, and in those countries which abound in stagnant ponds, and in low swampy and marshy situations. Intermitting fevers may also be occasioned by whatever relaxes the solids, diminishes the perspiration, or obstructs the circulation in the capillary vessels; such as a watery poor diet, great fatigue, long watching, grief and anxiety, exposure to a moist or cold damp atmosphere, lying upon damp ground, especially during evening dews, the suppression of accustomed evacuations, and the repulsion of eruptions.

Each paroxysm consists of three parts, denominated the cold, the hot, and the sweating stages. The cold stage commences with languor, a sense of debility and sluggishness in motion, frequent yawning and stretching, and an aversion to food; sometimes a vomiting, with pain in the head, back and limbs. The face and extremities become pale, the features shrink, the bulk of every external part is diminished, and the skin over the whole body appears constricted, as if cold had been applied to it. At length the patient feels very cold, and universal rigours come on, together with increased pains in the head, back, loins, and joints, nausea, and vomiting of bilious matter; the respiration is small, frequent, and anxious; the urine is pale; sensibility is greatly impaired; the thoughts are somewhat confused; and the pulse is small, frequent, and often irregular.

These symptoms abating after a short time, the second stage commences with an increase of heat over the whole body, redness of the face, dryness of the skin, thirst, pain in the head, throbbing in the temples, anxiety and restlessness; the respiration is fuller and more free, but still frequent; the tongue is furred, and the pulse has become regular, hard and full. If the attack has been very severe, delirium will often ensue.

When these symptoms have continued for some time, a moisture breaks out on the forehead, and by degrees becomes a sweat, and this, at length, extends over the whole body. As this sweat continues to flow, the heat of the body abates, the thirst ceases, the urine deposits a sediment, respiration is free and full, and most of the functions are restored to their ordinary state: the patient is, however, left in a weak and wearied condition. After a specific interval, according to the species of intermitting fever, the paroxysm again returns, commencing as above described.

When the paroxysms are of short duration, regular in their recurrence, and leave the intervals quite free, we expect a speedy recovery; but when they are long, violent, and attended with much anxiety and delirium, the event may be doubtful.

The employment of medicine is seldom requisite during the cold fit of an ague, but warm drinks should be freely used for the purpose of promoting sweat, which is the natural crisis of the disease. These may consist of water-gruel, camomile, or thoroughwort tea, and wine whey acidulated with the juice of lemons or oranges. During the intervals of the fits, the patient's food ought to be nourishing, but light and easy of digestion; such as broths made of

the tender meats, especially beef-tea, sago, arrow root, and light puddings. He may likewise drink frequently of infusions of bitter herbs, as wormwood and thoroughwort.

If we can increase the strength, and support the natural heat during the intermission, we prevent the return of the cold fit and all the subsequent train of symptoms. In this view, exercise is of indispensable necessity; however strong the disposition to indolence, it should on no pretence be indulged. If riding in the open air cannot be accomplished, walking through the house as much as the strength will permit, ought to be constantly encouraged.

It is an opinion among some persons, that an ague proves salutary to the constitution, and in expectation of such event, the disease is allowed to take its course for a considerable time without the application of medicine.

It must be confessed that persons of a bad habit of body, and whose natural strength has been impaired by a long continuance of some chronic complaint, have experienced a favourable change in the constitution by repeated shocks of an intermittent fever. But such complaints are probably susceptible of cure by means far less severe, and not injurious to the constitution.

When the ague is properly formed, and the patient has undergone several fits of shaking and sweating, the curative remedies should be immediately adopted.

Dr. Trotter, of the British navy, has found by his experience, that a proper dose of opium taken at the approach of an attack, will effectually prevent the cold fit. His method is to give thirty drops of tincture of opium (liquid laudanum,) to an adult, and if it do not bring on some warmth in the space of ten or fifteen minutes, from twelve to twenty drops more are given. He never had occasion to go beyond sixty drops, for in no case did the remedy fail to give relief in the space of an hour. As soon as any symptoms indicated another paroxysm, the tincture of opium was repeated in the same manner as in the former fit, and always with equal success; so that the patient seldom experienced much shaking or trembling.

Another novel remedy is that of compression of the circulation in the extremities, by means of a tourniquet or ligature. Mr. G. Killie, surgeon in the British navy, relates the curious fact, that in several instances he applied a tourniquet on one thigh and one arm of opposite sides, at the same time, and in two minutes after

the application of the tourniquets, the shaking and other symptoms of the cold stage entirely ceased, and a mild hot stage was immediately induced, and the patient found himself quite relieved. After suffering the ligatures to remain on for about fifteen minutes, they were removed, and the cold symptoms did not return.

When the tincture of opium or the torniquet have been omitted, or in the event of their failure when employed, the patient must resort to the usual course of remedies. Bleeding is improper in intermitting fevers, unless excessive heat, delirium, and other symptoms of inflammation appear at the beginning, and it is rarely necessary to repeat the operation. Essential advantages, however, are to be derived from the early employment of emetics in the cure of this disease; nature herself points out the propriety of evacuations from the stomach and bowels, large quantities of bile and viscid phlegm being usually thrown off by vomiting. A dose of about thirty grains of Ipecacuanha will answer the purpose for an adult, and the operation should be promoted by drinking freely of warm camomile tea or water-gruel. The vomit ought to be taken two or three hours before a return of the fit is expected, and it may be repeated in two or three days if necessary. Emetics not only cleanse the stomach, but increase the perspiration, and all the secretions, and sometimes cure intermitting fevers without the assistance of any other medicine. After the operation of an emetic, some suitable cathartic medicine should be administered during the intermission, that its operation may be finished before the next return of the fit. Either rhubarb, jalap, extract of butternut, or Glauber's salt, will be found to answer the desired purpose, and it may be useful to give a grain of opium, or thirty drops of laudanum, after the operation of both the emetic and cathartic.

The stomach and bowels having been properly cleansed, and the perspiration and other secretions rendered free, the patient should commence taking the cinchona, or Peruvian bark, as the most efficacious remedy with which we are acquainted. It is to be observed that the benefits arising from this medicine, depend chiefly upon a large quantity being administered in a short time. Several ounces of bark given in a few days, will do more than as many pounds taken in the course of some weeks. Let it be a rule to throw in the medicine in such doses, and as often as the stomach will receive it. This valuable medicine is to be given in the simple form of powder, in preference to any of its preparations.

It may be taken in a glass of Port wine, or mixed in a cup of milk, as may be most agreeable to the palate and stomach. About one ounce of good powdered bark will, in general, be found sufficient to prevent the return of the ague and fever, when taken in the interval. From forty to sixty grains may be taken at a time, and in a quotidian, or every day ague, a dose ought to be taken every hour; in a tertian, every two hours; and in a quartan, every three hours during the intermission. If the patient find it difficult to take the medicine in such quantity, he may diminish the dose and take it more frequently. For younger persons and children, the dose must be proportioned to their age. Although by the use of the bark another fit of the ague has been prevented, the employment of the medicine is by no means to be immediately discontinued, but it must be taken in smaller quantities for several days or weeks after the disease appears to be cured, in order to secure against a relapse which so frequently occurs. Those who have once been troubled with ague, are peculiarly liable to a return of it during cold moist weather, and easterly winds, when the air is most favourable to its production; such persons ought at those seasons, to take the bark, or a preparation of it combined with aromatic bitters, as follows: one ounce of bark, one drachm of Virginia snake-root, two drachms of the outer rind of Seville oranges, and half an ounce of calamus aromaticus, or sweet flag root. Or, take one ounce of the leaves and flowers of thoroughwort, half an ounce of calamus aromaticus, and of quassia and orange peel, two drachms each. Let these ingredients be infused in a quart of brandy, or pure old cider, for three or four days, and afterwards filter the tincture, through paper; about half a wine glass full of this tincture may be taken twice in a day. The use of this medicine will also render the bark more efficacious in the cure of agues if taken at the same time. The bark may be administered in decoction or infusion, when it cannot be swallowed in substance.

When the stomach cannot bear the bark in any form, it may be given by way of clyster, which often proves successful; about a drachm of the extract of bark, dissolved in a sufficient quantity of water, with the addition of a few drops of laudanum, should be injected every four hours. Children have been cured of agues by means of a waistcoat with powdered bark quilted between its folds, as they likewise have by being bathed frequently in a decoction of the bark. Bathing and rubbing along the spine of children with strong spirits, or anodyne balsam, has often proved beneficial.

When the hot fit of an intermittent is accompanied with symptoms which indicate considerable inflammation, whether in adults or children, much benefit has been received from the use of the saline julep, prepared as follows: take of salt of tartar, or carbonate of potassa, one drachm; fresh juice of lemons, or sharp vinegar, three table-spoonfuls: in less than a minute after they are mixed, or as soon as the effervescence ceases, add of mint water and common water, each two table-spoonfuls, with a bit of loaf sugar, or a little common syrup. To a child four or five years old, three tea-spoonfuls of this julep may be given every two hours.

When the bark has a tendency to pass off through the bowels, a few drops of laudanum may be added to each dose, and if costiveness be produced, a few grains of rhubarb may be conjoined to the bark occasionally. In case of much inflammatory diathesis, and especially if cough and pain in the side attend, nitre, or carbonate of potassa, should be conjoined, and the application of blisters will be proper. Dr. Rush affirms, that in all cases of autumnal intermittents in which bark did not succeed after three or four trials, the application of blisters to the wrists seldom failed of rendering that remedy efficacious; but if blisters had been neglected, or applied without effect, and the disease had been protracted into the winter months, he generally cured it by means of one or two moderate bleedings.

It was the practice of Dr. Lind to give opiates in the hot fit of intermittents. It generally gives sensible relief to the head, abates the burning heat of the fever, and occasions a profuse sweat. And he has found that opium is the best preparative for the bark, occasioning such a salutary and copious evacuation by sweat, as generally to render a much less quantity of bark requisite. Adult persons may take fifteen or twenty drops of laudanum, half an hour after the hot fit has begun, and for a young child, two or three tea-spoonfuls of the syrup of white poppies will answer the purpose.

Of the various species of bark now to be met with, a decided preference is given to the yellow, as possessing virtues far superior to the red, or any other species yet introduced into practice. The numerous other barks which have been introduced as substitutes for the Peruvian, are augustura, quassia wood, swietenia febrifuga, St. Lucia bark, and the bark of the willows, particularly the broad leafed willow. These are recommended with much

confidence by those Europeans who have experienced their efficacy, but in the United States they are not much employed. The cold bath between the fits has sometimes been successful in the cure of obstinate agues. The sulphate of zinc (white vitriol), is said to have been administered in agues with success, and the sulphate of copper (blue vitriol), in doses of a quarter or half a grain every four or six hours, has proved very efficacious in some cases of intermittents of the most obstinate nature. But of all the medicines introduced of late years, no one is more highly extolled than Dr. Fowler's solution of white arsenic. It is undoubtedly a very powerful medicine, and intermittents of the most obstinate character have in numerous instances yielded to it. The peculiar activity of the arsenical solution, however, is such as to require much caution and very precise rules in its administration, in order to obtain its beneficial effects with safety. The most proper manner is to begin with four drops for an adult, and add one or two to every morning and evening dose, until the patient experience a peculiar sensation about the eyes or skin of the face, somewhat similar to that excited by a cobweb adhering to the skin. This sensation being the criterion, it should be continued by doses either diminished or increased, according to its effects on the system. The number of drops will seldom exceed twelve or fifteen, and eight days administration of the medicine, will, it is said, generally be found sufficient for the radical cure of an intermittent.

We have among our own productions numerous articles possessing in a greater or less degree, the tonic and astringent properties of Peruvian bark, and several of these have been successfully employed in the cure of intermittents. The one which first demands our attention, as being in the highest repute, is the *Eupatorium perfoliatum*, or common thoroughwort. It appears, by an inaugural dissertation by Dr Andrew Anderson, of New-York, that the leaves and flowers of this plant, possess properties exactly similar to the Peruvian bark, and in addition to his own, he adduces the authority of many very respectable practitioners, particularly Drs. Barton and Hosack, in proof of its superior efficacy as a remedy in intermitting and remitting fevers. The author relates six cases of intermittent fever, in which after a single evacuant, the thoroughwort effected radical cures, and adds, that the same remedy was administered in almost all the instances of intermittents that occurred in the New-York almshouse in the year 1812, to the exclusion

of the Peruvian bark, and with uniform success. It was given either in decoction or in powder, from twenty to thirty grains every second hour during the intermisssion. See American New Dispensatory.

It happens not unfrequently when intermittents have continued a long time, whether much bark has been taken or not, that tumours are formed in some of the abdominal viscera, as the liver or spleen, vulgarly denominated ague cakes; these in general prove difficult of cure, but will finally yield to a course of mercury if judiciously conducted. Dropsical complaints are also sometimes occasioned by the long continuance of intermittents, but may be removed by the use of the bark, combined with stomachic bitters, diuretics, and chalybeates.

It is deemed altogether unnecessary to mention the numerous empirical and whimsical remedies which have been handed down by popular tradition, or proclaimed by persons of the present day, for the cure of intermittent fevers; since, amidst the great abundance of remedies of unquestionable efficacy, no rational person can be so regardless of health and life, as ever to trust for a cure to nostrums, or to any thing of a doubtful or insignificant nature.

The inhabitants of our southern states, and of the low swampy situations on the Delaware river, &c. are peculiarly liable to the attacks of intermitting fevers, but those affected with it who resort to the salubrious air of New-England, experience a speedy cure, and that frequently without the aid of medicine. To prevent the attacks of agues, or their recurrence when once cured, care should be taken to avoid the influence of the hot sun, and the damp air of morning and evening; a flannel shirt should be constantly worn next the skin, and regularly changed once a week. The tincture prepared as directed in this chapter, will prove a valuable preventive if taken twice or thrice in a day.

If fires are kept burning in the sitting rooms, mornings and evenings, during the damp seasons, they will be found useful by depriving the air of its unhealthy moisture, and keeping the walls dry. "By this practice," says Dr. Mease, "I have known the health of a family in the swamps of Delaware, preserved during a whole summer while the neighbours were all afflicted by agues." Dr. Rush recommended that fires should not only be kept in the house during the sickly months, but that large fires be made every evening, of brush, near the house, between it and the spots from

whence the exhalations are derived. This practice, he observed, should be continued till the appearance of two or three frosts; for frosts, as well as heavy rains in the autumnal months, never fail to put a stop to the progress of intermittents.

Since this chapter was completed, it has been announced in the New-England Journal of Med. and Surgery, Vol. IV. page 105, by Dr. Makesy of the British forces stationed at Castine, that common charcoal powder properly prepared, has been found by European physicians to be an efficacious remedy in intermittent and remittent fevers. The author mentions that in a village in Sicily, one hundred and five cases were speedily cured by this new remedy, two or three doses of which being often found sufficient to interrupt the expected paroxysm, and cut short the disease. From half a drachm to two drachms given three or four times during the intermission, or immediately before the expected paroxysm, will in most cases prove sufficient.

I must not omit to mention that cures of ague have been performed by simple *cobweb*, in doses of two or three grains every few hours until the fits are subdued. See appendix to this volume.

The sulphate of quinine has obtained very considerable reputation as a remedy in Intermittents. Several physicians in different parts of the United States have given their testimony in favour of its efficacy. It has been employed in the New York hospital greatly to the satisfaction of the Professors. "In some cases, it was given in the form of the sulphate, and in others that of the super-sulphate, prepared as follows:

R	Sulphat Quinin - - - - -	℥j.
	Elixir Vitriol - - - - - -	℥ss.
	Syrup Zingib - - - - - -	℥ij.

Of this mixture, a tea-spoonful was given every hour, and in every case with the most perfect success, in preventing the return of the paroxysm. This formula containing the superaddition of the sulphuric acid, possesses much greater efficacy than the sulphate, as it is ordinarily exhibited." The prusiate of iron was also tried in the New York hospital, as recommended by Dr. Zollickoffer, but with little success.

Order II.—REMITTENT FEVER.

This fever receives its name from the appearances which it preserves through its progress, having affinity with both intermittent and continued fever, but seems more nearly allied to the former, and differs from the latter, by being attended with a remission or abatement of the febrile symptoms at irregular periods, and of uncertain duration. The more closely, however, the fever resembles a regular intermittent, the less is the danger of a fatal termination.

This fever may in general be ascribed to similar causes with those of intermittents. It prevails most in low marshy situations, abounding with wood and stagnant waters. Where great heat and moisture are combined, remittents often have a malignant and putrid tendency, and prove very fatal. They are most frequent when close and sultry weather quickly succeeds heavy rains, or great inundations. No age, sex, or constitution is exempted from the attack; but it chiefly seizes those of a relaxed habit, who live in low dirty habitations, breathe an impure, stagnating air, and use a poor unwholesome diet.

Remitting fevers, in general, commence suddenly with weakness, lowness of spirits, yawning and stretching, pain and giddiness in the head, with alternate fits of heat and cold. Sometimes the patient is affected with a delirium at the first attack. There is a pain, and sometimes a swelling, about the region of the stomach, the tongue is white, the eyes and skin frequently appear yellow, and the patient is often afflicted with bilious vomitings. The pulse is small and quick, but seldom full, and the blood when let, rarely shews any signs of inflammation. In some patients there is a troublesome looseness, in others, the opposite extreme. At length, about the sixth or eighth day, a moisture appears over the surface of the body, when a remission of the febrile action ensues. It is impossible to describe all the symptoms of this disease, as they vary according to the situation of the year, and the constitution of the patient. They may likewise be greatly changed by the method of treatment, and by many other circumstances, too tedious to mention. Sometimes the bilious symptoms predominate, sometimes the nervous, and at other times the putrid. Nor is it

at all uncommon to find a succession of each of these, or even a complication of them at the same time, in the same person.

In remitting fevers the patient is always to be considered in considerable danger, particularly in warm climates, where it usually goes through its course in the space of five or six days; but in colder ones, it is frequently protracted to twelve or fourteen days. The principal object in the cure, is to bring it to a regular remission, which greatly facilitates a favourable termination. In cold climates, and in a very early stage of the disease, when the patient is of a full plethoric habit, the pulse full and hard, the heat intense, the breathing difficult, or the head much affected with stupor, or delirium, it will be necessary to have recourse to bleeding; but in warm climates, when few or none of these symptoms are present, this evacuation may be dispensed with, as it may prove injurious, or weaken the patient, and prolong the disease. It will, however, in all cases, be requisite to cleanse the stomach, by giving an emetic of about twenty grains of Ipecacuanha and two of tartar emetic, which may be repeated at proper intervals if the sickness or nausea continue. After the operation of this, the body must be kept open by mild laxative medicines, as an infusion of senna and manna, with tamarinds, prunes, cream of tartar, or Glauber's salts, which may be taken in small doses every hour till a stool is procured. If the following mixture be taken every few hours, it will be found a valuable laxative in this fever. Take good powdered rhubarb, twenty grains, salt of tartar, or of wormwood, ten grains, lemon juice, or sharp vinegar, two table-spoonfuls. Let this be given in the act of effervescence, or the powder may be taken in water-gruel and the acid swallowed immediately after. In order to reduce the feverish heat, or to bring on regular intermissions, the saline julep, mentioned in the cure of the intermittent fever, should be given with the addition of one eighth, or one quarter of a grain of tartar emetic in each dose. As soon as a distinct remission is perceived, the Peruvian bark must be immediately given, in the quantity of half a drachm or upwards, and repeated every two hours; by which the usual increase of the fever may be prevented, and the disease entirely subdued. In domestic practice, the powder of thoroughwort may be substituted for the Peruvian bark, with a fair prospect of success. Fowler's arsenical solution, in doses regulated as in intermittents,

is by many practitioners considered as a valuable remedy in this fever.

In warm climates, calomel is considered a valuable remedy in this species of fever to deterge and evacuate feculent matter from the bowels; where there is much nausea or vomiting, it may be retained on the stomach when all other purgatives might be rejected. Where frequent vomiting prevails, antimonials must be omitted, but the saline mixture mentioned in the last chapter, should be frequently administered in a state of effervescence, adding to each dose ten drops of laudanum; flannel cloths, wrung out from a decoction of camomile flowers, or mullein, and bruised poppy heads, with some spirits, should be constantly applied over the region of the stomach, and if the vomiting still continue, a large blister ought to be applied to the same part. The patient, during the continuance of the vomiting, should swallow as little drink as possible, and only moisten the mouth and throat; for whatever is received into the stomach will be rejected with considerable violence, by which the disease is strengthened and the patient exhausted.

The cold affusion when applied agreeably to the rules prescribed in page 182, has been found productive of the most decided good effects in remittent fevers. This should be employed at the height of the paroxysm, when the sensations of heat are violent, the head-ach severe, and the skin dry. The effects to be observed from the cold affusion, are an alleviation of the violent symptoms, a tendency to quiet sleep is soon induced, the skin becomes moist, and a distinct remission follows.

Where from great debility of the patient, or other cause, it may not be deemed prudent to resort to the cold affusion, tepid water may be employed in a similar manner, or the sponging the body over with cold water and vinegar, will be found to induce grateful sensations, and afford essential relief.

The diet of the patient must be suited to the degree and symptoms of the disease. If considerable inflammatory action appears, every thing of a heating quality both in food and drink must be avoided; but when nervous or putrid symptoms occur, the patient must be supported with such diet and cordial liquors as are usually directed in those fevers. Wine, given with the bark, has often excellent effects after distinct remissions have become manifest

It is of great importance that the patient be kept clean, cool, and perfectly quiet. Fresh air ought to be frequently admitted into the apartments by the windows and doors, and the floors should be sprinkled with vinegar. Both linen and bed clothes should be frequently changed, and the excrements immediately removed; for too much attention cannot be given towards keeping the air of the chamber pure and untainted.

Bilious Remitting Fever.

When a continual remitting or intermitting fever is accompanied with a frequent and copious evacuation of bile, either by vomit or stool, the fever is denominated bilious. A fever of this character frequently exists in the United States, and from the season in which it is most prevalent, it has been termed autumnal fever. According to Dr. Rush, it prevailed in Philadelphia in the autumn of 1780. It came on with rigour, giddiness in the head, and faintness. The fever was accompanied with acute pains in the head, eye-balls, back, and limbs, sometimes affecting the neck and arms with unusual soreness of the flesh resembling rheumatism. So exquisitely severe were the pains and soreness in every part of the body, that the patient could not lie in bed, and from these circumstances the disorder obtained the name of the *Break-bone fever*. A nausea, and sometimes a vomiting, attended; the pulse was quick and full, but seldom hard. The tongue and skin were generally moist, and the former was tinctured of a yellowish colour. Remissions, or at least, exacerbations were observed, morning and evening. A rash often appeared on the third and fourth day, which proved favourable. When the fever did not terminate before the fourteenth or twentieth day, it assumed in its progress the usual symptoms of the typhus gravior, or mitior, of Dr. Cullen. Dr. Rush treated this fever by giving a gentle vomit of tartar emetic, and if given while the fever was in its forming state, it frequently effected an immediate cure. If a nausea, or ineffectual attempt to vomit, continued after the exhibition of the tartar emetic, he gave a second dose of it with the happiest effects. He next gave gentle doses of Glauber's salts and cream of tartar,* or of the butternut pill, so as to procure two or three

* Dr. R. observes, cream of tartar renders the purging salts less disagreeable to the taste and stomach; but that lemon juice and loaf sugar, added to a solution of salts, form a mixture that is nearly as pleasant as strong beverage.

plentiful stools. In every instance the patients found relief by these evacuations, especially from the pains in the head and limbs. Small doses of salts and tartar emetic were afterwards administered, to promote perspiration, and to evacuate the bile as fast as accumulated. He recommended the use of pediluvia every night, and for drinks, sage and balm teas, apple and tamarind water, weak punch, lemonade, and wine whey. On the third or fourth day, the severity of the symptoms abated, with a sweat, which was diffused over the whole body, and distinct remissions occurred. Though the pulse remained quick, a few doses of the bark taken in the interval, seldom failed to prevent a return of the fever. After the necessary evacuations had been made, opium was found to produce the best effects in relieving pain, procuring sweat, and remission of the fever.

If the fever continued beyond the third or fourth day without an intermission, Dr. R. had recourse to blisters, which produced the most immediate good effects. Where the fever did not yield to blisters, and assumed the form of typhus, the medicines usually employed in that species of fever were given.

The convalescence from this disease, was marked, says Dr. R. by a number of extraordinary symptoms, which rendered patients the subjects of medical attention for many days after the pulse became perfectly regular, and after the crisis of the disease.

A bitter taste in the mouth, accompanied by a yellow colour on the tongue, continued for near a week. Most of those who recovered, complained of nausea, and a total want of appetite. A faintness, especially upon setting up in bed, or in a chair, followed this fever, and a weakness in the knees was universal. These complaints were removed by the tincture of bark, and elixir of vitriol, with nourishing diet, and gentle exercise in the open air.

Dr. Norcom, an experienced and observing physician of Edenton, North Carolina, has communicated to Dr. Hosack some very important observations on the subject of remittent fever, in the two forms in which the disease appears annually in that climate. The following abstract is taken from the Med. and Phil. Register, and Medical Essays by Dr. Hosack.

The annual remitting fever of Edenton, and the country in its vicinity, usually begins with the month of August, and the most

malignant cases always occur in this month, or during the hot weather in September. According to Dr. N.'s observations, the remitting fever is most fatal in seasons tending to dryness, and accompanied with unusual heat. In its character and symptoms it is as various as the circumstances of climate and season under which it exists. Sometimes persons are seized violently without any previous indisposition, with a chill, or mixed sensations of heat and chilliness, that last for an hour or two, and are succeeded by a severe fever, with pains in the head and back, and full, hard, quick, and bounding pulse, great thirst, a hot and dry skin, hurried respiration, with redness or a muddy suffusion of the eyes, and a disposition to delirium. The stomach, in this form of the fever, does not seem to be affected with much sickness or nausea; yet vomiting is a frequent occurrence, and it is with difficulty that a patient can retain the least particle of food whatever. A sense of heat or burning is generally complained of, which is very distressing, and occasions every thing to be thrown up that is swallowed, if it contain stimulus, or be in any way substantial. The exacerbations of the fever are oftenest quotidian, returning generally in the afternoon, and the intervals short, with an imperfect remission, without sweating, or any considerable abatement of pain. The most successful mode of treating this inflammatory or malignant remitting fever, is by bleeding, purging, emetics, diaphoretics, and diluents, adapted, in quantity and continuance, to the circumstances of the case. In this inflammatory form of remitting fever, attended with burning heat and oppressive anxiety about the precordia, neither spontaneous nor artificial vomiting appears to do good: on the contrary, emetics have often increased the affection of the stomach, and exasperated the symptoms of the disease. The bark is a medicine which here does little or no service; on the contrary, it does much harm by increasing the troublesome affection of the stomach, which never fails to aggravate the most lenient form of the disease. Bark is given in this fever to remove debility and exhaustion, which are its consequences, but seldom with a view of stopping or curing the disease. Mercury is advantageously employed, especially in the decline of the fever, after plentiful evacuations. Another form of remitting fever, which is the true bilious remittent of that climate, comes on with a distinct chilly fit, of greater or less duration, and is succeeded by the ordinary symptoms of fever, with a frequent, full and soft pulse, such as

may almost always be felt in the paroxysms of an intermittent. It is not accompanied with much acute pain, but great aching and restlessness, nausea or vomiting, with ejection of bile, or matter exhibiting a bilious appearance. The type of this fever is generally that of a double tertian, having an exacerbation one day in the afternoon, the next in the evening. Its remissions are more distinct than those of the inflammatory remittent; it seldom requires bleeding; and, after the exhibition of the proper intestinal evacuants, invariably yields to the bark. It is rarely fatal, and when it is, seldom terminates in less than from ten to sixteen or seventeen days. Towards its close it sometimes puts on the garb of typhus, and does not end in death or recovery in less than from twenty to thirty days. The fever last described is that which affects the greatest number of persons at a time, and is the least mortal of any of our continued fevers. Neither the inflammatory nor the bilious remittent, is very fatal; the former, however, is much the more so, in the proportion of at least three to one. It either ends fatally in from four to eight or nine days, or favourably, somewhere between the eighth and thirteenth, but is not unfrequently protracted to a later period; the fatal issue generally occurs early in the disease. The tongue, in the bilious remittent, is commonly furred and yellow; the skin, likewise, exhibits a yellow hue, which increases as the fever progresses; whereas, in the inflammatory remittent, the tongue exhibits the common febrile fur, in most cases without yellowness, and the skin is hardly ever discoloured, until about the close of the complaint. In two or three instances, the surface of the body turned yellow soon after death from the inflammatory remittent, when not the smallest discoloration had been observed before. In the inflammatory remittent, the vomiting occurs with little nausea or sickness; is seldom attended with bilious discharges; affords scarce any relief, and is always increased by bark and stimulants. In the bilious form of this fever, it is preceded by great nausea, attended with large discharges of bile, gives the patient relief, and is very often to be removed altogether with bark, aromatics, and cordial drinks. Emetics are of the utmost importance in this form of the fever, and if had recourse to in the beginning, never fail to do great service. From the bilious remittent of Carolina, no age, sex, or constitution, no condition, is exempt. To the inflammatory remittent, the young, the robust, the plethoric, and strangers, are peculiarly subject; and these last

are oftenest the victims of the disease. In most of the fatal cases of inflammatory remitting fever, the heat of the skin has continued intense until a short time before dissolution, and the patient has expired in a paroxysm or exacerbation of fever. The bilious remittent, when about to prove mortal, in a majority of instances, puts on the garb of typhus, and terminates with the symptoms common in the last stage of that disease.

Order III.—CONTINUED FEVERS.

The doctrine of critical days in continued fevers, has, from the time of Hippocrates, had its advocates and its opposers among the learned of the medical faculty. This point of doctrine, however, ought to be regarded as of some importance in a practical view, since it is almost universally admitted, that there is, in the nature of all acute diseases, except those of a putrid kind, a certain duration of continuance. When, therefore, the termination is to be favourable, the salutary change, unless the course of nature is interrupted by improper treatment, or some accidental occurrence, is generally manifested at certain periods, denominated critical days. These are the third, fifth, seventh, ninth, eleventh, fourteenth, seventeenth, and twentieth. All continued fevers, therefore, unless from the causes already mentioned, almost constantly terminate by a regular crisis, or the morbid cause falls on some particular organ or parts, producing inflammation, suppuration, &c.; or otherwise, the fatal termination occurs about the same periods.

Inflammatory Fever, or Synocha.

The ardent or inflammatory fever, is attended with symptoms denoting general inflammation in the system, by which it may be distinguished from either the nervous or putrid fever. It makes its attack at all seasons of the year, but is most frequent in the spring and beginning of summer, and it seizes persons of all ages and habits, but more particularly those in the prime of life, with strong, elastic fibres, and of plethoric constitution.

This acute fever may be occasioned by sudden transition from heat to cold, swallowing cold liquors when the body is heated by

exercise, too free use of spirituous liquors, violent passions, exposure to the heat of the sun, the suppression of habitual evacuations, and the sudden repulsion of eruptions. It commences with chilliness and a sense of lassitude and inactivity, succeeded by vertigo, and pains over the whole body, particularly in the head and back, redness of the face, great restlessness, intense heat and unquenchable thirst, difficult breathing, nausea and sickness, a foul tongue, and loss of appetite. The skin is dry and parched, the eyes appear inflamed, and are incapable of bearing the light, the urine is high coloured, and the pulse is full, hard, and quick, beating from ninety to one hundred and thirty in a minute. In some instances, after the symptoms have continued for some days, they assume those of typhus, so that the disease obtains the form of Synochus. The blood, when drawn, exhibits a yellowish or buffy crust on its surface.

If the fever runs very high, or continues many days, with delirium, subsultus tendinum, picking at the bed-clothes, laborious respiration, hiccoughs, cold clammy sweats, and involuntary discharges by stool and urine, the event will certainly be fatal.

From the danger with which this fever is attended, it will appear advisable to procure the best medical assistance as soon as possible, that the proper evacuations, and other remedies may be applied before the strength of the patient be too much exhausted. If the physician find the pulse frequent, full, and hard, and the patient young and plethoric, he will not hesitate to draw about eighteen ounces of blood from a large orifice, remembering that one large bleeding at the beginning, will be more beneficial than repeated small ones afterwards. He will judge of the propriety of another bleeding in a small quantity, from the appearance of the blood, and the abatement of the inflammatory symptoms. Should the patient be too much reduced to bear a considerable loss of blood, and the head be much affected with severe pain, or delirium, topical bleeding, by the application of three or four leeches to the the temples, will be found beneficial.

A powder, or pill, consisting of calomel, four parts, opium, one part, given in doses of about three grains every six hours, will tend greatly to open the secretions and to induce a solution of the fever.

If nausea or sickness prevail, the stomach should be relieved by exciting a gentle vomiting, by the use of a solution of emetic tar-

tar, in small doses, every quarter of an hour, assisted by chamomile, or thoroughwort tea. In this fever, cathartics will be found peculiarly useful. A few grains of calomel, made into pills with the extract of butternut, or a solution of Glauber's salts and manna, will effect the desired purpose, without increasing the heat and irritation. Costiveness may afterwards be obviated by a repetition of mild laxatives, or by laxative clysters.

The antiphlogistic regimen should be strictly observed, through the whole course of this fever. The patient's food should be light and easy of digestion, as preparations of barley, oatmeal, sago, and arrow root, roasted apples, &c. His drink should be barley water, linseed tea, toast and water, apple tea, whey, thin gruel, and lemonade. If, from the dictates of nature, the patient should manifest a longing, or strong desire for some particular kind of food or drink, he may be indulged in moderation, though it may seem in a degree improper.

Bathing the legs and feet in warm water, is among the means to be frequently employed, and cleanliness, and a free circulation of air, ought never to be neglected. Acids of all kinds, when sufficiently diluted, are refrigerant remedies of particular utility in all continued fevers. Besides the mineral acids, those from the vegetable class, as tamarinds, oranges, lemons, currants, apples, &c. may be mixed with various fluids, and will form a grateful and refreshing beverage. Cream of tartar dissolved in hot water, will be of use as a cooling laxative, and fifteen grains of sal nitre, or sixty or eighty drops of sweet spirits of nitre, added occasionally to some of the drinks, will be found well adapted for the purpose of moderating the heat, and quenching thirst in this fever. It is a point of considerable importance, to determine the circulation to the surface of the body, and to excite a general perspiration. This is generally effected by the use of the neutral salts, and the preparations of antimony, either separately, or combined as follows: take of salt of tartar or wormwood, two drachms, juice of lemons or strong vinegar, four table spoonfuls, mint water, a gill, loaf sugar, half an ounce, mix them, and give three table spoonfuls with twenty-five drops of the wine of antimony every four or five hours. Ten grains of sal nitre may be added to each dose, when the heat and thirst are great, and the diaphoretic effect of these medicines, should be increased, by taking frequently small draughts of warm liquids, and by warm fomentations to the lower

extremities. All attempts to excite sweating in fevers, by the common method of stimulant, heating, and inflammatory medicines, will prove decidedly more injurious than beneficial. A partial sweating, confined to the upper parts of the body, instead of relieving, is almost sure to aggravate and prove hurtful. The patient should be kept quiet in bed, and not covered with more bedclothes than is usual while in health.

Should great oppression in breathing, or violent pains in the head, stupor, or delirium ensue, the application of a blister near the part affected, will in general afford essential relief. Where there is any unusual coldness of the extremities, with a sinking pulse, trembling of the nerves, &c. blisters must be applied to the ancles, inside of the legs, or thighs, and stimulating poultices, of mustard and vinegar, or of roasted coakum root, to the soles of the feet. The strength of the patient must now be supported, by a free use of cordials, as strong wine whey, sago, or arrow root gruel with wine, and the efforts of nature should be further assisted, by camphor, the volatile salts of ammonia, ether, compound spirits of lavender, &c. Should the patient be troubled with vomiting, the saline draught ought to be taken in the act of effervescence, with the addition of eight or ten drops of the tincture of opium, and a few drops of the essence of peppermint to each dose. In case of great restlessness and want of sleep, where opium is deemed improper on account of much pain of the head or stupor, a pillow filled with hops, and laid under the patient's head, or a strong infusion or tincture, drawn from the flowers and leaves of that herb, will probably have the desired effect, of procuring refreshing sleep. If about the tenth or twelfth day, the pulse becomes more soft, tongue more moist, and the urine begins to let fall a reddish sediment, there is reason to expect a favourable issue to the disease. Under these encouraging circumstances, or when the febrile symptoms are continued and kept up solely by debility, it will be requisite to administer some of the vegetable tonics, as the Peruvian bark, cascarilla, quassia, thoroughwort, &c. But these should be given at first in the form of decoction or infusion, and acidulated with the elixir vitriol. In the state of convalescence, the recovery of the patient is to be completed, by a perseverance in a restorative and generous diet, with a moderate use of wine, a change of air, and the employment of daily exercise, carefully avoiding all fatigue of body or mind.

It has already been observed, that modern physicians, are much in the practice of employing the affusion of cold water over the

body of the patient, for the purpose of moderating or abstracting the morbid heat in fevers. It is not to be expected that this powerful agent will be resorted to in all cases indiscriminately, nor is it to be recommended without first consulting a judicious physician. In almost every fever, however, where no catarrhal symptoms, or inflammatory affection of the lungs are present, it will be perfectly safe and proper during the hot season of summer, to wash and sponge the surface of the body with cold water, in the height of the paroxysms of heat. See directions for the application of this remedy, in the chapter on fevers in general, the remittent fever, and the two following chapters.

TYPHUS, VEL SYNOCHUS.

Nervous Fever, or Typhus Mitior.

The slow nervous fever is distinguished by its effects on the nervous system; but it does not affect the habit so universally as the one last described. It principally attacks those of weak lax fibres; who lead a sedentary life; study much; and who indulge freely in enervating liquors.

This fever may be occasioned by whatever depresses the spirits, or impoverishes the blood; as grief, fear, anxiety, want of sleep, intense thought, living on poor watery diet, and unripe fruits; and likewise by damp, confined, or unwholesome air. It is often generated, and it proves most fatal in jails, hospitals, transport and prison ships, crowded baracks, work-houses, and the ill ventilated apartments of the poor. (See page 198.)

Whatever debilitates the system, obstructs perspiration, or induces spasmodic stricture of the solids, contributes to the causes which produce nervous fevers. The autumn is the season in which this fever is usually the most prevalent. "But the most general cause of typhus mitior is contagion, communicated through the medium of an impure or vitiated atmosphere, by concentrated effluvia arising from the body of a person labouring under the specific disease; but whatever debilitates the system or depresses the mind, may induce a state of predisposition more readily to be influenced by the operation thereof."*

---

* See observations on contagious and epidemic diseases in this volume.

"The nervous fever makes its first appearance with slight chills and shudderings, uncertain flushes of heat, and a sensation of weariness over the whole body, resembling that which is felt after great fatigue. It is commonly attended with a dejection of mind, and more or less of a sense of weight, pain, or giddiness of the head. A great numbness, or dull pain and coldness, affects the hinder part of the head frequently; and likewise along the middle from the forehead to the back part. A sickness of the stomach and a loathing of food soon follow, without any considerable thirst, but often with an inclination to vomit, which, if it happens, brings up little else than insipid phlegm. These symptoms are commonly succeeded by some degree of delirium.

"In this condition the patient often continues for five or six days, with a heavy, pale, sunk countenance; seemingly not very sick, and yet far from being well; restless, anxious, and commonly deprived of sleep, though sometimes very drowsy and heavy; appearing to those about him actually to sleep, but is himself so insensible of it, that he does not acknowledge that he has slept at all.

"The pulse during all this time is quick, weak, and unequal; sometimes fluttering, and sometimes for a few moments slow, perhaps even intermitting; and then, with a sudden flush in the face, immediately very quick; soon after which, it may again be surprisingly calm and equal.

"The heats and chills are equally variable with the pulse; sometimes a sudden glow arises in the cheeks, while the tip of the nose and ears are cold, and the forehead at the same time in a cold dewy sweat. It is even common for high colour and heat to appear in the face when the extremities are quite cold. The urine in this fever is commonly pale; frequently of a sherry or natural colour, containing either no sediment, or a kind of loose matter like bran, scattered up and down in it. The tongue at the beginning is seldom or never dry or discoloured, but sometimes covered with a thin whitish slime, but towards the crisis of the disease it often becomes dry, red, and chapped, or is, with the teeth, incrusted with a dark brown fur, though the patient scarcely ever complains of thirst. About the seventh or eighth day, the giddiness, pain, or heaviness of the head increases, with a constant noise in it, which is very disturbing to the sick, and frequently precedes a delirium." It frequently happens, that the fourth or fifth day, the fever diminishes in its violence, and presents flattering appearances, but soon

increases again, and assumes a more formidable aspect. "There is an irregularity in the exacerbations, which instead of the evening, sometimes appear in the morning. Profuse sweats frequently break forth all at once about the tenth or twelfth day, commonly coldish, and clammy on the extremities; often also very thin stools are discharged, and the patient's strength is depressed, even to faintness, whenever he attempts to sit up.

"The whole nervous system is much affected with tremours and twitchings; involuntary motions of the muscles and tendons arise, the patient picks at the bed-clothes almost incessantly, and either mutters to himself, or talks incoherently, and there is a dilatation of the pupils of the eyes. In most instances, the patient grows deaf and stupid towards the end of this disease. It is not uncommon for them to languish eighteen or twenty days in this fever, but often it exceeds a month in duration, and there is no other evident crisis than the urine becoming turbid, and depositing a sediment.

"When about the fourteenth day the pulse becomes fuller and more slow, the tongue more moist, and respiration free, a gentle moisture appears on the skin, or a suppuration happens in one or both ears, and large pustules break out about the lips and nose, a favourable termination of the disease may be expected. But if profuse evacuations by sweating or purging ensue, if the tongue, when put out, trembles excessively, and there is a sinking of the pulse, great incoherency of ideas, muttering, picking at the bed-clothes, involuntary discharges by urine and stool, starting of the tendons, and hiccough, with almost a total loss of sight and hearing, death will soon close the scene."

In some instances the access of this fever is so mild and slowly progressive, that medical attention is dispensed with for many days, and the patient is scarcely apprehensive of approaching serious indisposition. But when the fever is completely formed, it will in general pursue its course in despite of all our endeavours. The degree of violence, the duration, and the final issue, are greatly influenced by the different modes of medical treatment. It has been the practice almost invariably among former writers, to condemn the use of the lancet, as altogether inadmissible in this modification of typhus fever, but practitioners are daily becoming less tenacious of the vital fluid; and it has been asserted that typhus fever has often been marked with symptoms of inflammatory excitement to a degree justifying depleting remedies, and that expe-

rience has evinced their utility. In the early stage, therefore, if inflammation and excitability greatly prevail, such quantity of blood may be cautiously drawn as will be fairly proportionate to the strength of the patient and urgency of the symptoms. When the use of the lancet is deemed improper, and it is desirable to relieve particular symptoms, such as topical inflammation of the thoracic viscera, or congestions, with considerable determination of blood to any part, the application of leeches may be recommended for the purpose. After this evacuation, it is indispensably necessary to clear the first passages of their crude and acrid contents, by the early exhibition of an emetic, which, by the concussion it gives to the whole system, dissolves the morbid catenation, and frequently terminates the disease; and in every stage of this fever, mild emetics may be exhibited as often as indicated with beneficial effects. Cathartics of calomel and jalap, or neutral salts and manna, are next to be directed, and throughout the whole course of the disease, costiveness must be obviated, either by mild laxatives or emollient injections. At bed time it will be proper to direct an opiate, and its effects will be promoted if combined with camphor, or with Ipecacuanha, as in the form of Dover's powder. These evacuating remedies having been applied, it is a general and very efficacious mode of practice next to administer tartar emetic in solution, and calomel and opium in small doses. Let about one and a half grain of the former, and one quarter of a grain of the latter, be given every sixth hour, and if a very moderate degree of ptyalism be induced, it will tend greatly to open the secretions, hasten a restoration of the balance of excitement, and shorten the duration of the fever. If the head should be considerably affected, it will be proper to apply a blister to the back of the neck or temples, and blisters should be applied to different parts, as circumstances may require. On some occasions when stupor, coma, or delirium prevail, bathing the feet in warm water, with frequent washings of the temples and whole head, when properly shaved, with cold water and vinegar, or applying either to these parts, may be advantageously substituted for blisters. Shaving the head, and washing it frequently with vinegar and water, and keeping it thinly covered, are refreshing, and often afford considerable relief. As a diaphoretic medicine, the neutral mixture, or spirit of Mindererus, to each dose of which, one quarter of a grain of tartarized antimony may be added, will be found beneficial if given a table-

spoonful for a dose, once in two or three hours. If nausea prove troublesome, omit the tartarized antimony, and add a few drops of laudanum and of the essence of peppermint to each dose. Should great irritability of the stomach, and frequent vomiting attend, there is not, perhaps, a more effectual remedy, than a large blister applied over the region of the stomach, and sometimes it becomes requisite to apply one on the inside of each thigh, from which essential benefit will be derived. When there is a torpid state of the vessels of the skin, and the external heat is below the natural standard, it becomes a point of considerable importance to have recourse to artificial heat, so applied as to effect an equable degree of excitement, and to relieve the internal viscera from oppression. For this purpose, the warm bath is frequently employed, but it is now supposed that dry heat possesses many advantages over that of moisture. The most eligible mode of applying heat to the surface of the body, is by means of the spirituous vapour bath, invented by Dr. Jennings. Another process for the purpose of imparting dry heat, described in note, page 209 of this volume, may be employed with much advantage.

But there are frequent occasions for adopting a practice the reverse of that just described. In those cases where there is a morbid increase of external heat, the affusion of cold water over the naked body is the most powerful remedy. The human body, like all other bodies, when preternaturally heated, may be reduced to its natural temperature by the application of cold water over its surface, and when judiciously conducted, this remedy has proved one of the most powerful and efficacious means which can be employed in typhus fevers. If adopted in the forming stage of the disease, this remedy will frequently arrest and cut short its progress, or if delayed till after the fourth day, when the fever is completely formed, the patient will experience the most essential relief from the heat and other distressing febrile symptoms. But there are particular circumstances, and precise rules, to be regarded by the physician in the application of this remedy. The safest and most advantageous time for using cold water, is when the exacerbation is at its height, which is marked by increased flushing, thirst, and restlessness: when there is no sensible chilliness present; when the heat is steadily above what is natural, and when there is no general or profuse perspiration. In the advanced stage of typhus fever, or in fact, at any period of the disease when the

heat is already reduced, and the debility great, some cordial, such as wine warmed with the addition of spice, or even brandy, should be given immediately after the employment of the cold affusion. The mode of applying the cold water, is by dashing it from a pail or allowing it to fall from a height in considerable quantity from a watering pot, or when the patient is extremely weak, it may be applied by wrapping him in a blanket well wet with cold water. If in the advanced stage of fever the cold affusion should appear objectionable, the aspersion, or ablution of the body, by means of a sponge, may be substituted, or the tepid bath may perhaps be more eligible. See page 203.

When a slow feeble pulse, with diminished external heat, indicates a torpid state of the extreme vessels, the following cordial powder will produce the happiest effects, by invigorating the vital energy, inducing the desirable perspiration, and diffusing a more uniform warmth over the surface. Take powdered camphor and carbonate of ammonia, of each six grains: Ipecacuanha two grains, mix for a dose, and repeat it every three hours. The spirit of hartshorn, or of sal ammoniac, in doses of thirty or forty drops in a cup of mustard whey, or infusion of Virginia snake-root, often repeated, is a useful auxiliary for the same purpose. If a diarrhœa attend, and threaten to debilitate the patient, a mild cathartic should be administered, after which it may be restrained by a free use of the chalk mixture, or the compound powder of chalk with opium. When restlessness or other symptoms arise for the want of sleep, opiates combined with diaphoretics, either in the form of Dover's powder, or laudanum in proper doses, should be directed; it has been observed that opiates are almost constantly found beneficial in typhus fever. When the patient is much affected with subsultus tendinum, it has been usual to administer musk, castor, camphor, and by some sal succini; each of these may in some instances prove useful, and when given to the extent of twenty grains, musk often has a powerful effect as an antispasmodic. But I should repose equal confidence in the virtues of the root of a domestic plant, pothos fœtida, or skunk cabbage, as an antispasmodic, destitute of heating properties, and well calculated to diminish nervous irrittiaons and subsultus tendinum.

If in the progress of typhus mitior, symptoms of putridity should arise, two table spoonfuls of yeast, if given every three hours, will be found of great utility. It frequently happens that miliary

eruptions appear about the ninth or tenth day of the disease; they must by no means be checked by any kind of evacuation, as they may prove to be an effort of nature to throw off the fever; nor should the patient be kept too warm, as sometimes happens, in order to force out such eruptions. When the mouth becomes affected with apthous ulcers, a gargle, composed of borax and honey, should be frequently applied to those parts. The sophora tinctoria, or Indigo weed, has of late been found to produce the most speedy good effects of any application yet employed, the infusion of the root being used as a gargle. See American New Dispensatory, and Appendix to this volume.

Cold water, if taken internally in the cold stage of the paroxysm of fever, increases the chilliness and torpor of the surface and extremities, and produces a sense of coldness in the stomach, augments the oppression on the præcordia, and renders the pulse more frequent and more feeble, according to Dr. Currie. When the hot stage is fairly formed, and the surface is dry and burning, cold water may be drunk with the utmost freedom, as at this period it is highly grateful, and tends to diminish the heat of the surface, and lessen the frequency of the pulse, and often brings the paroxysm to a speedier issue. During the whole course of this fever, the patient must be supported by light nutriment, such as oat meal gruel, sago, panado, arrow root, jellies, chicken broth, and beef tea. For ordinary drink, wine whey, or negus, prepared by mixing one part of Port wine with two parts of water and sweetened, and also mustard whey, acidulated with the juice of oranges or lemons, will be useful in this fever; and the mineral acids, especially the muriatic, must not be omitted.

The chamber of the patient should be well ventilated and the floor frequently sprinkled with vinegar, the bed and body linen must be kept constantly clean, and the excrements immediately removed from the room. The impressions made by noise, light, external heat, and thirst, should be avoided as prejudicial in this and all other fevers.

Every experienced physician must be sensible, that the treatment in typhus fever, requires to be varied after the inflammatory symptoms of the first stage have been vanquished by the evacuation of blood and other depleting means. It would be exceedingly improper to continue the exhibition of mercury and antimony in the last stage of typhus. As soon therefore, as distinct intermis-

sions, or remissions of the fever become manifest, the Peruvian bark or some of its substitutes, should be prescribed in the absence of the paroxysms. Half a drachm of the cinchona in powder may be given in a glass of wine every two hours. The bark of cascarilla and the Virginia snake-root will sometimes be found useful, when the cinchona is inadmissible, or when combined with it. The eupatorium perfoliatum, or thoroughwort, has of late been substituted for the cinchona, with decided advantage, and I have known it to succeed more effectually than cinchona, and without producing any unpleasant effect. The cordial qualities of wine are well calculated to exhilirate and to invigorate the vital powers, when much exhausted in the latter stage of typhus fever. The wines to be preferred are Madeira, Port, or Claret, and if pure and sound, one bottle or more may be used in twenty-four hours, provided no ill effects result from it. If the least degree of intoxication arise, wine should be discontinued. The mineral acids, especially the muriatic, if liberally employed, will prove useful auxiliaries in the cure of this disease, as also pure old bottled cider. When, in the last stage of typhus, the usual stimulant remedies fail in rousing the powers of life, the most singular advantages have been derived from the use of the arsenical solution. From trials in the hands of Drs. Ferrier and Thomas, successful results may be confidently expected from its use in similar circumstances. When the patient has been happily brought to a state of convalescence, it is important that he enjoy a pure air, take moderate exercise daily, and use a nourishing diet, recollecting however, that over-eating is a more frequent cause of relapse than any other. Peruvian bark, and wine, with stomachic bitters, should be employed to complete the restoration to health. As typhus fevers are of an infectious nature, every endeavour should be exerted for suppressing its further propagation as recommended under the head of contagious diseases.

To sum up the treatment of this form of fever, it is to be observed, that the active and inflammatory symptoms, so soon as they arise, are to be subdued and removed by bleeding, emetics, cathartics and sudorifics.

One, or more, or all these remedies are to be used, and more or less fully, according to the circumstances of particular cases. After the administration of these remedies, if the heat should continue, at times, to be injuriously great, the best mode of reducing

it is by external means, so far as these shall be found sufficient. These are, cool or cold air, cleanliness, the affusion of cold water, or sponging the surface of the body with cold or lukewarm vinegar and water, with the internal use of cool or cold water.

So long as the skin is hot and dry, and thirst is present, and cold water produces no sense of weight or coldness in the stomach, and no local disease exists, so long the patient may drink it just as freely as he pleases, and this not only with safety, but with great comfort, satisfaction and advantage. This rule I have adopted for fifteen years, and have not seen cause to regret it in one single instance. Under these conditions, what can be more grateful or beneficial to the sick than this indulgence, so strictly prohibited in former times?

This permission, with the proper external use of cold water, and the warm and vapour baths, coustitute one of the greatest improvements in the late and present treatment of febrile complaints, This management shortens the duration, lessens the sufferings, and prevents the fatal tendency of this numerous class of maladies, beyond the conception of any who have not witnessed the different effects between this and the oldfashioned, opposite practice.

The following are the outlines of Dr. Miner's treatment of Nervous Fever, extracted and abridged from his Essay on the Resolution and Treatment of Fevers:—

When called to a patient who has the precursory symptoms of fever, or even if he has advanced two or three days into the preparatory stage, after we have investigated the nature of the case, the first inquiry is, whether there be a rational prospect of *breaking up*, or procuring a *resolution* of the disease; if there is, to make the attempt is of immense importance. The means should be such as can be most conveniently employed, be liable to the fewest accidents in their execution, and though they might happen to fail of breaking it up, they should be such as will best moderate its violence, shorten its duration, and at the same time, put the patient in the least danger of *sinking* at a critical period, and also, best prepare him for the subsequent appropriate remedies. When the fever has a typhoid character, SLOW AND MODERATE PURGING WITH CALOMEL, answers the indications just mentioned, better than any other method. It is the only one, of all the common devices for breaking up fevers at their access, which in my practice, has been attended with any degree of certainty. The calo-

mel, mixed with any mild syrup, but not in the form of pill, should be administered in small doses—from *two* to *five* grains, every *two* or *three* hours, according to the circumstances of the patient, till sufficient catharsis is produced. If possible, the calomel should be given in such doses, and at such intervals of time, as *to be retained in the stomach and bowels twelve hours*, before it produces its operative effect. But if catharsis does not take place in eighteen hours at farthest, it must be assisted by castor-oil, or some other *mild* vegetable purgative. At the same time, it is proper to pursue a *moderate, diaphoretic regimen;* such as pediluvian, tepid aromatic and diaphoretic drinks, fomentations and sinapisms, or epispastics, as the local symptoms require. When the pain in the head is violent, *a blister to the forehead* will not only be of essential service in relieving this particular symptom, but will very much assist the effort at breaking up tbe disease, by superinducing an additional new action. Warm bathing is also an excellent adjurant in the severer cases. In putrid-fever, when the heat is above the natural standard, and the skin dry, we may also resort to cold affusion, with a cooler regimen, there being nothing in the calomel practice to interfere with its use, in truly hot cases. Cold affusion is, however, with us, rarely indicated; as in the majority of our fevers, which are decidedly of *the nervous type*, the heat scarcely exceeds the temperature of health, and is *often below it*, during their whole progress. If the catharsis incline to be excessive, it must be promptly checked by opium; if too sparing, the vegetable cathartic is to be repeated. When the patient has been previously purging himself, injudiciously, with an ill chosen article, or the case is attended with a diarrhœa, or there is reason to suppose that the calomel will pass rapidly through the bowels, or operate harshly, or even if there is much irritability of the system in general, it requires *a single medium cathartic dose*, with *a sufficient quantity of opium*, to stay it, at least, for twelve or fifteen hours. For a general rule, all the *anomalous cases* of simple fever, especially those of the low and simple kind, which there is reason to apprehend might terminate fatally in one week, unless prevented by art, require opium to be combined with the calomel from the very access, provided any evacuation is admissible; nor are they safely managed, unless the patient is kept uniformly and perseveringly under the influence of opium, to the termination of the disease.

There is something peculiar and specific in the operation of calomel, differing from every other medicinal agent; and the more slow in its operation, to a given point, the more obvious is this difference. Its effects upon the stomach, small intestines, lungs, liver, spleen, pancreas, &c. have long been well known and acknowledged, and either from these causes, or something not yet ascertained, its counteracting effect at the access of febrile diseases, under suitable management, is preferable to every other known article. Its moderate use, in small doses, during the first stages of fevers, for the purpose of *changing* action and *preparing* for a subsequent supporting and tonic course, has long been established, and rests on the highest testimony. No one article so certainly *counteracts* and lessens morbid action, equalizes the excitement, and *prepares* the patient for the use of tonics. Judiciously used, it overcomes the irritability of the stomach, on the one hand, or moderates the torpor, on the other, which would otherwise prevent their successful employment, and produces a favourable state of the skin, and other excretory organs. By this management, the patient is fitted for the bark and other tonics, better and earlier than in the usual way. Indeed, *whether the bark is advantageous at all, depends almost entirely on the first week's preparation.* To a neglect of this particular point, we chiefly owe the various and opposite testimony, with respect to the efficacy of this important article. I have never had a case of *regular* simple fever, the very mildest excepted, in which the bark and opium might not be used, with obvious benefit, during the stage of exhaustion. By the judicious treatment of the disease, in its *first stages*, with calomel, all the desired preparatory effects are produced, without materially diminishing muscular or arterial strength, or wasting the vital powers. However, the object is not merely to prepare the system for the subsequent supporting treatment, in order to sustain the powers of life under a protracted disease. We usually obtain *a complete resolution*, and thus *break up* the disease itself immediately. It is confidently believed, however surprising it may appear to those who have not witnessed the fact, that this simple process of *slowly and moderately purging with calomel*, when employed *sufficiently early*, does not fail in more than one instance in ten, of *breaking up the disease at its very commencement.* In the whole course of my practice in [*regular*] typhus, of all who have applied within the first forty-eight hours after the obvious access of the

disease, two cases only have proved fatal; and I am pretty confident, that not one has failed, in which the patient had not been tampering with emetics or cathartics, previous to my being called. When from these, or other causes, we have failed of breaking up the disease, the remaining *preparatory treatment* for the first week, demands our attention.

Whatever may be the opinion with respect to critical days, it is certain, that all our late typhoid fevers have very regularly observed *weekly, critical periods.* It is an old, and very just remark; that in all *regular* diseases of this description, they are generally but little benefited by the bark, and articles of a similar tendency, till after a prominent critical, or semi-critical change; that is, not until *morbid irritability of the stomach and bowels, on the one hand, or torpor on the other, is overcome, local pains, and other urgent symptoms, relieved, and sometimes in every twenty-four hours at least, the tongue is moist, and the skin and other excretories are free.* So imperative is this rule, that I never knew a physician, who [in a case of regular fever] was daring enough to violate it. There are various means which are adopted for the purpose of producing this particular state of the system. This kind of crisis, however, by the usual management, does not generally take place until *the end of the second week*, when the patient is too frequently so much exhausted, that tonics are apt to produce very little effect, or the system is still so irritable, that they cannot be borne at all. But it very certainly occurs, at *the end of the first week*, and occasionally some days earlier, especially in the more severe and rapid cases, when the following alterative course is properly executed. Calomel in small doses, united with opium sufficient to stay it upon the bowels, and also, sufficient to allay other irritation, and if *the skin incline to be dry*, and the heat be *much increased*, with ipecacuanha, should be administered, as *a preparatory course*, during the first week. But in most of the phlegmasiæ, and in many low and irregular cases, the partial crisis, or semi-critical change before mentioned, is produced, and the system is fitted for tonics, in a much shorter period. When this happens, we must enter *immediately on the supporting course*, and except in a few obstinate cases of local inflammation, *instantly suspend* the calomel. It requires as much judgment, to know *when to abstract* this article, as to know how to administer it at first. This compound of calomel, opium, and (when necessary)

ipecacuanha, in order to produce its full effect, should be given at *short and regular* intervals, so that the system may *constantly* be kept under the combined effect of the whole of the articles. Each succeeding dose, therefore, must be administered *a little time before the effect of the preceding has ceased.* Calomel in this form, except in a very few moderately torpid cases, where not previously used, is probably *never serviceable*, as an alterative, *after the first week ;* nor, a few local inflammations excepted, even after the semi critical change is produced, however early in the disease it may have taken place. This process is much assisted by infusions of serpentaria, and other aromatic and diaphoretic drinks, and the various circumstances, which belong to the proper moderate diaphoretic regimen. But if we are not called till near the end of the first week of simple fever, calomel should not be employed, except as a slow and moderate cathartic ; for in this late stage, it is nearly impossible to touch the mouth, or to affect the system ; and it is liable, when it has any influence, instead of diminishing, *to coincide with the existing morbid action*, and then *to aggravate* the very symptoms which it was intended to counteract.

The minutest circumstances are often necessary to be observed, in order to obtain the full effect of an important article. If they are overlooked, its operation is defeated. Thus in *highly sthenic diseases*, calomel will not produce its alterative effects, unless the system is *first thoroughly reduced*, by depletion and evacuation. In like manner, in *the lowest typhoid diseases*, these effects cannot be produced, unless *the system is first raised* by alcohol and opium, or what is perhaps preferable, by capsicum, aromatics, and acrid stimulants. It is by no means intended, ever to produce complete ptyalism, or, strictly speaking, any ptyalism at all. In this case, as probably in all others, this effect is to be avoided, if possible. Not that any material or permanent evil is the consequence ; but it is productive of considerable temporary disturbance, without being in itself of any service. The cupreous taste, the slightest distention of the gums, or sloughy whiteness, or erosion of their margin, and soreness of the teeth, the most moderate degree of the peculiar fleecy appearance of the tongue, and fetor of the breath, which are among the first visible effects of mercurials, will be amply sufficient. This is the state which it is desirable, the very low cases already excepted, to keep up *during the first week*, or till the sub-critical change supervene. By this plan,

the patient is prepared for tonics, a week earlier, than by the common practice.

Before dismissing the subject of calomel, it is necessary to enforce one important point, with respect to the administration of this article, viz.: That there is *no certain dependence* to be placed upon its use, either as *a slow and moderate cathartic*, or as an alterative, unless the patient will submit to an *appropriate diaphoretic regimen*. He must confine himself to his room, and in many instances to his bed; and at the same time, use tepid aromatic and diaphoretic drinks, light liquid food, such as broth, milk-porridge, arrow-root, or the lighter vegetable and animal, mucilaginous, and gelatinous preparations. Pediluvium, or warm-bathing, sinapisms, and in many instances, epispastics, are indispensable auxiliaries. Having completed the preparatory course, and *entered upon the tonic and supporting plan*, at least a week earlier than usual, we are enabled to carry the patient safely over the dangers attending the most important *critical periods*.

Although the main intention of this Essay, is to point out a method of treatment suited to the *first week*, or to the *forming* and *preparatory stages* of regular febrile diseases, as well as to demonstrate *the practicability of breaking them up*, or of producing a *resolution* at their access, and particularly to establish definite and precise rules for the use of calomel, yet, I cannot forbear making a few remarks upon the *method of support*, which it is necessary to pursue, during the continuance of the disease, or the *stage of exhaustion*.

Moderate doses of the *decoction* and *tincture of the bark*, given at short intervals, and when the skin inclines to be dry, combined with serpentaria, or similar diaphoretics, mineral acids, wine, and especially Opium *in small doses, every three or four hours at farthest*, and even every hour, in the lowest cases, constitute the most successful method of supporting the system. *In very low cases, diluted alcohol is preferable to wine;* and Fowler's mineral-solution, in doses from five to eight minims, or at any rate, in a quantity short of the nauseating point, should be administered every four or six hours. Where the bark is worn out, or when it is rejected by the stomach, this article is a most excellent substitute; but whoever uses it, without combining it with opium, will, most assuredly, be disappointed in its effects. Slow and moderate purging, (when it fails of removing the disease) is but a good beginning of

the alterative process, and rarely is sufficient, of itself, to produce the semi-critical change, so that the patient can be profited by tonics, unless it is followed, a few days, by a suitable course of calomel and opium. Nor is the disease commonly more than half through, when the sub-critical change has commenced. No time, therefore, is to be lost. The supporting course is now to be entered on with decision, and pursued with energy and perseverance; for *if the proper time for administering tonics is passed by, there often arises such an irritability of the system, as in a great degree to preclude their use.* More inconveniences proceed from indecision on this point, than from almost any other. Besides, *the accidental symptoms* which are ever liable to be met with, at the *critical periods*, are to be treated with the greatest promptness. Vomiting, diarrhœa, &c. must be *immediately suppressed;* not by emetics and cathartics, but by full doses of opium, blisters to the stomach, and other auxiliaries. Metastasis of the diseased action to the brain, lungs, or any other vital organ, *admits of no relaxation* in the general treatment; but often requires *a vast addition to its force and strength*, combined with the most vigorous and extensive application of *blisters over the parts*, with other topical remedies. As soon as the brain is known to be much affected, the upper part of the head is to be shaved, and a large epispastic applied; and tincture of stramonium is often an important auxiliary. Charcoal, capsicum, and oil of turpentine, may often be used with success, in tympanitic abdomen. The introduction of a tube into the rectum, frequently removes this troublesome symptom. The dangerous and troublesome coma, which often occurs in the last stage of fever, is more effectually overcome, and the counterfeit torpor, in this stage of low typhus, is more easily counteracted, by the regular administration of opium and alcohol, than by any other means whatever. Their occurrence is more rare, when these articles have been previously used, than under the common treatment. But to produce its full effect, it is absolutely necessary, that *each succeeding dose of opium should be administered before the exciting effects of the former have passed by.* Much attention is necessary to this subject. When managed in this way, opium becomes the most efficient and safe exciting power of the whole Materia Medica. By an unsteady and irregular administration, and at too long intervals, or in improper doses, it is, on the other hand, one of the most precarious.

The true standard for the administration of opium, as a supporting agent, is to increase the dose, until the febrile irritation, restlessness, and anxiety, are subdued, and tremors and subsultus controlled. In the severe cases, coma supervenes upon this state of irritation, to a much greater degree, where narcotics have not been employed; and when they have been previously used, and are abstracted, under the false notion that they produce this symptom, it is invariably aggravated. It is not the opium, but the manner of administering it, which produces disturbance and troublesome secondary effects. As a general rule, to overcome irritability, with subsultus, spasms, and its other various symptoms, opium should be given in *full doses*, at intervals of three or four hours; for when the dose is not sufficienly large to subdue, it seems to increase these symptoms. But when it is used as a supporting agent, it should be administered in *small doses*, once in two hours; and in extreme cases, it is sometimes necessary to repeat it, every hour.

It may be proper also to remark, in this place, that where debility is attended with irritability, our principal reliance is to be placed upon opium; but where debility is attended with torpor, our dependence must be placed chiefly upon lyttae, capsicum, and other *acrid stimulants;* yet opium, in appropriate doses, is essential in either case. Alcohol, mineral-solution, oil of turpentine, and a frequent succession of blisters, are beneficial in severe cases of both varieties.

But medicine, alone, is not sufficient to cure any protracted disease. It is indispensable that the patient should be regularly furnished with suitable food, which is both nutritious and easy of digestion. Gelatinous and mucilaginous preparations are far preferable to solid substances. *During the stage of exhaustion*, from half an ounce to an ounce or two, of broth, milk-porridge, or arrow-root, &c. should be taken a dozen times in twenty-four hours, *with the same regularity as the medicine.* Milk, with one third lime-water, is good food, when the bowels are too soluble. In convalescence, oysters, and the soft parts of shell-fish, answer the best purpose, for the stomachs which have been accustomed to them in health.

Hydrocephalus-internus is *frequently cured* by an energetic use of calomel and opium. In typhoid pneumonia, rheumatism, and dysentery with fever, after clearing the alimentary canal by appro-

priate purging, the pain should be *decidedly conquered and kept under*, by opium. But in many severe cases, cathartics are utterly inadmissible, unless combined with large doses of opium. Indeed, opium in sufficient doses, combined with calomel and ipecacuanha, according to the symptoms, and judiciously followed by the bark and opium, after the semi-critical change, is nearly a specific in these diseases. I cannot forbear mentioning the superiority of slow and moderate purging with calomel, in chronic hepatic affections, over the rash manner in which it is usually administered, combined with active cathartics.

PUTRID AND MALIGNANT FEVER, OR TYPHUS GRAVIOR.

It is alleged by some authors that the nervous fever described in the last chapter, and this, which is known by the various names of gaol fever, hospital fever, ship fever, petechical fever, the putrid, and the malignant fever, are essentially the same disease, and that the apparent difference depends upon the degree or upon the different constitutions of the patient. But there is a radical distinction, and they cannot be confounded in practice without the most serious consequences. It frequently happens however, that the inflammatory, nervous, and putrid symptoms are so blended together, that it is difficult to determine, especially at the beginning, to which of the three classes the fever belongs.

The putrid fever may be distinguished from the inflammatory, by the smallness of the pulse, the uncommon dejection of mind, the great prostration of strength which ensues on the first attack, the brown or black tongue, the dark and fœtid sordes about the teeth, the livid flush of the countenance, and the acrid and more intense heat of the skin; and in its more advanced stage, by the petechiæ, or purple spots which appear on various parts of the body, and the fœtid stools which are discharged. In addition to these symptoms, the peculiar biting heat of the skin, the perpetual writhing of the body, which has been termed a mortal inquietude, the more florid colour, and the violence of the symptoms at the commencement, will afford a sufficient diagnosis between this and typhus mitior.

The general source from which putrid fevers originate, is contagion, (see page 198) communicated either immediately from the body of a person affected with it, or by clothes or other articles

having been in contact with the sick. It is sometimes generated by a hot and moist constitution of the air: and in low marshy countries, by the effluvia arising from animal and vegetable substances, in a state of putrefaction, especially when intense sultry heat quickly succeeds a wet and rainy season. But typhus fever is supposed to originate in general, from exhalations arising from human excretion, when closely confined, and acted upon by animal heat. Hence no situations are more liable to this fever, than close and confined rooms, such as crowded hospitals, gaols, camps, and on board of ships, when the strictest attention is not paid to a free ventilation, and other proper means of cleanliness. It is also occasioned by eating flesh or fish, that have been too long kept, and by living too much upon salted animal food, without a suitable quantity of vegetables; whence seamen on long voyages are much exposed to its influence. Damaged corn, and water that has become putrid by stagnation, may likewise produce putrid fever. The poor inhabitants of large towns, who breathe a confined unwholesome air, and such mechanics and manufacturers as are employed about dirty substances, and are constantly confined within close and crowded rooms, are peculiarly liable to putrid fevers.

Persons of lax fibres, and who have been weakened by any previous debilitating cause, such as poor diet, long fasting, hard labour, continued want of sleep, &c., are most commonly the subjects of this disease.

The symptoms of this fever in the beginning are not unlike those of the nervous fever, but the attack in general is more sudden and violent, and the progress more rapid and alarming. There is usually considerable chilliness attended with, and gradually ending in acrid and often burning heat with little remission; great prostration of strength; general anguish of body, and depression of spirits. The breathing is short and anxious; and a nausea and vomiting of bilious matter sometimes ensue; the pulse is quick, small, and often hard, with distressing head-ach, noise in the ears, and a violent throbbing of the temporal arteries. The eyes are sunk, dull, listless, with a dusky, sallow, dejected countenance, or red, full, and rolling with restlessness and fierce delirium; the tongue is generally foul, often brown or black, with blackness of the lips and fœtid sordes about the teeth; and there is sometimes considerable thirst. The urine is scanty, and at first but little changed, but progressively becomes high coloured, sometimes greenish or sooty,

and generally of a strong smell. The fever continuing to increase, the speech becomes inarticulate and scarcely intelligible; the patient mutters to himself, and delirium attends. At length symptoms of putrefaction appear, the stools are dark coloured, offensive, and pass off insensibly, hæmorrhages issue from the gums, nostrils, and intestines; or more frequently, extravasations of blood from the cutaneous vessels produce red, livid, or purple spots, or petechiæ, or larger marks, like bruises, on the neck, breast, arms, and other parts of the body, shewing the great malignity and danger of the disease. The pulse now intermits and sinks, the extremities grow cold; hiccoughs ensue, and death soon closes the tragic scene.

The duration of the putrid fever is extremely uncertain; some times finishing its course between the seventh and fourteenth day, and at other times continuing for several weeks. When after the fourth or fifth day, a gentle universal warm perspiration, with diminished frequency, and increased fulness of the pulse, a moist and cleaner tongue, scabby eruptions about the mouth, and moderately loose stools occur, a favourable termination may be expected; while partial clammy sweats, weaker and irregular, or tremulous pulse, dry, black, and chopped tongue, swelling and tension of the abdomen, involuntary discharges by urine and stool, subsultus tendinum, picking the bed-clothes, high delirium, constant vomitings, coldness of the feet and hands, and trembling motion of the tongue, laboured respiration, and difficulty of swallowing, denote a fatal event; and if the patient can lie on his back only, and draws up his knees, and makes frequent attempts to get out of bed without assigning any reason, and passes frequent stools of a very offensive smell involuntarily, the hour of dissolution is near at hand.

In the treatment of this fever, one of the principal objects is to counteract as far as possible the putrid tendency of the fluids; to support the patient's strength and spirits, and to assist nature in resisting the cause of the disease. No part of the treatment is more important than a rigid attention to the means of personal cleanliness, a free circulation of pure air, and the exclusion of noise and light from the patient's chamber.

As the breath and perspiration of a person whose whole mass of fluids is in a state of putrefaction, will soon contaminate the air of an apartment, and as the least noise or fatigue of body or mind in such debilitated state, will occasion faintness, and aggravate the other symptoms, it is obvious, that the avoidance of all these causes

ought to be strictly enforced during the whole course of the fever. Not only should the chamber be constantly ventilated, but the floor should be sprinkled with vinegar, and its fumes diffused through the house by burning or boiling it. The juice of oranges or lemons, or other vegetable acids, should be freely used by the patient, and the skins of those fruits, together with strong scented herbs, as rue, tansy, and wormwood, may be distributed about the bed and apartment, as means of rendering the air more agreeable, and of preventing the spread of the disease. The vegetable acids are peculiarly useful in this fever, and they should be mixed with all the patient's food and drinks, which may consist of barley water, orange, mustard, lemon, or vinegar whey, camomile or thoroughwort tea, and occasionally with a proper addition of Port or Madeira wine. The food must be light and easy, as panado, oatmeal gruel sharpened with acids, or the jelly of currants, &c. and the patient may eat freely of ripe fruits, jellies, and preserves, of almost every description. Thoroughwort tea, will be found very serviceable in this disease, and it may be acidulated by adding to every cup ten or fifteen drops of the elixir of vitriol. When the body is bound, a teaspoonful of cream of tartar may be dissolved in a cup of the patient's drink occasionally, or a decoction of tamarinds, will tend to quench thirst and promote a discharge by stool. The patient ought to swallow a little food or drink very frequently, as it will tend to support his strength and spirits. If delirium prevails, the hands and feet should be frequently fomented in a strong decoction of thoroughwort, which both relieves the head and assists in counteracting the putrid tendency.

In regard to the curative treatment, blood-letting was formerly deemed inadmissible in typhus and putrid fevers ; nothing but the clearest evidence of high inflammatory affection could, it was imagined, justify the practice, even at the first onset of the disease; but more recent improvements have changed the sentiments of physicians in this respect, and venesection is now resorted to by some with the same freedom and confidence as in other acute diseases, limiting the extent by the effects produced on the pulse and system ; but this requires much caution. Emetics given at the beginning, and repeated occasionally during the course of the fever, never fail of rendering very essential service, and when administered before the forming state, it often arrests its progress. After the stomach has been sufficiently cleansed, an adequate dose

of calomel and jalap should be exhibited, to evacuate from the intestines that accumulation of putrid matter which tends to increase the fever, and aggravate all the symptoms. The bowels during the progress of fever, should be kept constantly at command by means of calomel, or some mild laxative medicine, and occasional injections. When delirium, local pains, or symptoms of congestion, are present, or when diminished excitement on the surface or extremities, demand the use of blisters, these should be extensively employed. Applied to the head and inside of the legs and thighs, they are productive of the most important good effects. Stimulating sinapisms of mustard seed, rye meal, and vinegar, or the coakum root, should be applied to the soles of the feet, and warm frictions and rubefacients to different parts of the body, where torpor and coldness prevail. These may sometimes supersede the use of blisters, and are less apt to occasion gangrene. Calomel and opium, as advised in typhus mitior, have usually been exhibited in the early stage of typhus gravior, with much confidence, and generally with great success; a fatal termination rarely occurring where a mild affection of the salivary glands has been induced. The celebrated Dr. G. Fordyce relies chiefly upon a weak solution of tartarized antimony, administered in such manner as to induce a slight nausea, and repeating it every third hour, until either vomiting, purging, or free perspiration be excited, taking care not to push it so far as to weaken the patient by profuse sweats or other evacuations. By the use of this medicine in the early stage of typhus, he asserts that in one third or one half of the cases, he has seen symptoms of a crisis arise in less than five hours after the exhibition of it, and in less than twelve hours the fever has often ceased altogether. Every practitioner, however, must be aware that a constant nausea is a very unpleasant and distressing sensation, and also that both mercury and antimony have so powerful a tendency to exhaust the vital energy, as to render their use exceedingly objectionable after the first stage of typhus fevers. But tonic and antiseptic medicines and nourishment are mostly to be depended on for the cure, after the necessary evacuations have been made. In the advanced stage, all debilitating causes must be avoided, and the patient should be supported by cordials and stimulants adapted to the peculiar circumstances of the case. Such are volatile alkali, ether, porter, yeast, Virginia snake-root, and cascarilla; but good sound wine, as Port,

Claret, or Madeira, is incomparably the most efficacious. Numerous extraordinary cures have been effected, when patients were reduced to the last extremity of danger, by the administration of wine to the extent of a quart or more in twenty-four hours. But nothing can exceed the beneficial effects to be obtained from a free use of a wine made from the officinal black currant. We are not acquainted with a better cordial and antiseptic remedy in all putrid diseases.* Another useful article in this species of fever is pure bottled cider, which may be given with much freedom. In the most dangerous form of the fever, when purple or black spots appear, two table-spoonfuls of yeast should be administered every two or three hours, and no time should be lost in resorting to the cinchona, joined with the mineral acids. The most efficacious form of administering the bark is certainly in substance. One ounce of the powder may be mixed in half a pint of water, and the same quantity of red wine, and sharpened with the elixir vitriol, which will make it sit easier on the stomach, and render it more beneficial. A little loaf sugar may be added, and the patient should take two table-spoonfuls every two hours. If in this form the bark should offend the stomach, it may be tried in decoction or infusion, conjoined with Virginia snake-root, to which some of the compound spirit of lavender may be added. The muriatic acid has obtained considerable repute for its efficacy in typhus and malignant fevers. In his Modern Practice, Dr. Thomas vouches, in strong terms, for its great utility, as experienced in his own practice for several years. Having premised the usual evacuations, and subjected the patient to the cold affusion where that is deemed proper, he prescribes for adults, ten or twelve drops of the muriatic acid, guarded with five drops of laudanum, and mixed in about an ounce and a half of an infusion of cascarilla or columbo. This he directs to be repeated every four hours, gradually increasing the quantity of the acid to eighteen or twenty drops or more. The effects of the muriatic acid in all febrile diseases of a malignant nature, says Dr. Thomas, are truly great: and, from using it in all such cases, his practice has been attended with the most decided success. In the hands of other practitioners, likewise, the muriatic acid has been productive of favourable effects in both typhus mitior and gravior. In one case of the

* It is much to be desired that our horticulturalists would pay more particular attention to the cultivation of that very valuable fruit, the officinal black currant.

latter species, attended with extreme danger, I administered this medicine in a strong infusion of thoroughwort, with a few drops of laudanum; when it had been taken freely for about twelve hours, a profuse sweat ensued of a yellowish colour, and nauseous smell; a favourable change immediately appeared, and the recovery was rapid. The patient's linen was corroded and entirely destroyed, by what exuded through the pores. As a mild tonic and antiseptic, the thoroughwort, in the form of infusion, acidulated with the mineral acids, will prove beneficial in all the stages of this fever. Opiates are indispensably necessary, and afford great relief in this disease, a suitable dose of which may be given every night with some diaphoretic medicine or drink, more especially if a troublesome looseness attend. And to obviate this threatening symptom, recourse must be had to internal astringents, such as the compound powder of chalk, catechu, the root of tormentilla, and, in obstinate cases, the acetite of lead, one grain, opium, half a grain, every two hours, till the desired effect be produced. For the healing of those foul ulcers so troublesome about the mouth and tongue, antiseptic gargles should be freely employed, among which, no one is to be preferred to an infusion of sophora tinctoria, (see Appendix.) When from extreme irritability of the stomach, a troublesome and obstinate vomiting attends, the neutral mixture ought to be so administered that the effervescence may take place in the stomach, and a few drops of laudanum occasionally added; or eight or ten grains of salt of tartar, or sal æratus dissolved in a wine glass full of lime water, with a few drops of essence of peppermint, should be given every three or four hours. A large blister should be applied over the region of the stomach, and blisters to the thighs and legs will also be very beneficial. Spirituous fomentations with laudanum to the stomach, and the latter injected into the intestines, will often afford great relief. The internal exhibition of carbonic acid gas is supposed to be highly useful in taking off that peculiar debility of the stomach which is often so distressing in putrid diseases. This gas may be conveniently administered by means of ærated water, prepared as in the Appendix, or by the neutral mixture, as above mentioned. In the act of effervescence the gas is extricated, and exerts its effects directly on the stomach. It is on the principle of its affording fixed air, that yeast has obtained such high repute in putrid diseases. The discovery originated with the Rev. Mr. E. Cartwright, an English clergyman, and the rem-

edy has been found by experience to merit the highest attention. Whilst visiting a boy ill with putrid fever to such a degree as to preclude all hope of recovery, he recollected an experiment of a piece of meat being made sweet, by being suspended over a tub of wort in the act of fermentation. The idea occurred that yeast might correct the putrid nature of this disease, and he immediately gave the boy two large spoonfuls, and directed it to be repeated every three hours. The good effect was immediately visible, and the recovery was remarkably rapid. This benevolent clergyman repeated his trials with astonishing success, and he affirms that he has since administered the yeast to above fifty persons, labouring under putrid fevers; and what is singular, all of them recovered. In some instances the relief was so speedy, that from a state of drowsy insensibility, with a black tongue, and pulse scarcely perceptible, the patients were in a few hours able to leave their beds and walk. It is given in doses of two table-spoonfuls in a cup of water, or an infusion of malt, or mild porter, every two or three hours, and bark and wine are given at proper intervals at the same time.

A decoction of the root of sophora tinctoria, from its antiseptic properties, has been administered in a few cases of putrid fever with effects so decidedly beneficial, as to excite sanguine expectations of its efficacy; and as it may be given without interfering with other remedies, it is recommended for further trial.

Since the introduction of the practice of affusing the body with cold water, that remedy has been resorted to in cases of putrid malignant fever, and the proofs are now irresistible, that, when judiciously employed, it is productive of the most important advantages. Mr. Marshall, surgeon, reported to Dr. Currie, that in sixty cases, out of sixty-four, in which this remedy was employed at an early period, the disease was arrested by having recourse to it three or four times; and in the other four, which were advanced in their progress, although the disease was not stopped from going through its natural course, still all the patients recovered. The circumstances and restrictions under which alone this powerful agent may be used, have been fully described in the chapter on fevers in general, and on typhus mitior, to which the reader is referred.

In all instances of contagious fever, the utmost care should be taken to prevent its being communicated to other persons. The

sick should be as much separated from the rest of the family as possible; the bed linen, and every thing about the patient, ought to be changed every day; all discharges and filth of every kind immediately removed, and cleanliness, in the strictest sense of the word, most rigidly and constantly enjoined. The chamber or apartment must be properly ventilated, by allowing a free admission of fresh air into it during both day and night, securing the patient, however, from a current of cold or damp air. The fumes of warm vinegar in which some aromatic herbs have been infused, should be diffused through the room. No person, but the necessary attendants, should have any communication with the sick, and these should avoid sitting down on the patient's bed; or inhaling the breath or vapour arising immediately from his body.

It may be proper for those who are necessarily exposed, to keep a sponge, or handkerchief, moistened with camphorated spirits or vinegar, to the nose and mouth,* and the various means recommended in the chapter on contagious diseases, ought to be adopted, and a steady perseverance enjoined.

The author having described in detail the most approved modes of treatment in tyhhus fever, it remains to caution the inexperienced physician against an error in practice, of which he may not be aware. It is that of doing *too much*, and expecting more from our art than can be realized. Typhus is a subject not so easy of control as some may imagine; it will in general run its course, and it is even doubtful, whether in the aggregate, more lives are saved by what is termed bold, vigorous, efficient practice, than by the most simple mode of treatment, and more reliance placed on the efforts of nature, carefully regarding her dictates, and judiciously fulfilling her indications.

---

* "When the contagion of a putrid fever is taken by the saliva into the stomach and bowels, which is its constant road, if the patient, the moment he finds himself attacked with a sense of chilliness, loss of appetite, and an unpleasant taste in his mouth, has recourse to two emetics at proper intervals, and after the operation of the first emetic takes a cathartic, he has certainly got rid of the infection."

Townsend's Guide to Health, Vol. II. p. 53.

DYSENTERIA, OR DYSENTERY.

This disease is characterized by violent griping, tenesmus and straining at stool, attended with frequent scanty and mucous or bloody discharges from the intestines, while the proper fœculent matter is for the most part retained. The dysentery is often occasioned by much moisture succeeding quickly to intense heat, or great drought, whereby the perspiration is suddenly checked, and a determination made to the intestines. It is likewise produced by the use of unwholesome and putrid food, and by noxious exhalations and vapours, hence it is frequent in camps and ships, and other places where a number of people are assembled under circumstances favourable for its production. It is most prevalent in autumn, and is frequently of a contagious nature, and in some particular conditions of the atmosphere it prevails epidemically.

This disease is most commonly preceded by costiveness, unusual flatulence, acid eructations, and wandering pains in the bowels; in most cases, however, from the commencement, griping pains are felt in the lower part of the abdomen, which often arise to a considerable degree of severity; the bowels are irritated to frequent evacuation, in indulging which, but little is voided, and the rectum often becomes exquisitely painful and tender; the matter evacuated is often very fœtid, and the stools are frequently composed of mucus, pus, blood, membranous films, and white lumps of a sebaceous nature; the mucus is generally mixed with a watery fluid, and is often frothy: tenesmus in a greater or less degree generally accompanies the evacuation of the bowels, and it very rarely happens, that natural fœces appear during the whole course of the disease, and when they do, they are in the form of scybala, that is, small separate balls, which appear to have lain long in the cells of the colon; when these are voided either by the efforts of nature, or are solicited by medicine, they procure a remission of all the symptoms, more especially of the frequent stools, griping, and tenesmus; with these symptoms there is loss of appetite, great anxiety about the præcordia, frequent sickness, nausea, vomiting, and the matter ejected is frequently bilious, watchfulness, and prostration of strength; there is always some degree of symptomatic fever, which is sometimes of the remittent or intermittent type; sometimes it assumes the synochous, and very frequently

the typhous type: the tongue is white, and covered with tough mucus, or rough, dry, and sometimes black; the patient complains of a bitter taste in the mouth, and in the advanced stage of the the disease there is hiccough and aphthæ.

When the fever attending the dysentery is of a violent inflammatory kind, and especially when it is of a highly putrid nature, the disease often terminates fatally in a few days by a gangrene, or mortification of some part of the bowels; but when the attendant fever is moderate, or entirely disappears, the disease is often protracted for weeks, and even months.

If vomiting, hiccough, greenish or black stools, with an extreme putrid smell occur in this disease, the danger is great; and when the pulse becomes weak, and the extremities cold, with difficulty of swallowing, and convulsions, death will soon close the scene.

In the curative treatment, particular regard should be paid to the prominent symptoms, carefully discriminating between those which attend the early stage, and those which succeed at a later period, that the remedies may be properly appropriated to the different stages and circumstances. If the disease is attended with acute pains, and a tenderness of the abdomen, indicating inflammation of the coats of the intestines, venesection is obviously indispensable, and the necessity of a repetition must be determined by the continuance of inflammatory symptoms, whether the pulse be full and tense, or small, frequent, and more or less hard. In warm climates, however, this practice must be pursued with a degree of caution, as the employment of powerful antiphlogistic measures is often succeeded by a sudden and dangerous debility, and the fever which attends, is very apt to assume a typhoid type. We may, however, always begin with emetics, which are not only useful in emptying the stomach and bowels, but they also determine to the surface. The most efficacious emetic is Ipecacuanha and tartarized antimony combined, and after the operation of the first full dose, smaller doses of the same may be advantageously employed. The morbid and noxious contents of the intestines, the pernicious source of the irritation, must be expelled by cathartics, and calomel is one of the most efficacious, but it should always be combined with some antimonial preparation, as the tartrite, or cerated glass of antimony; from six to ten grains of this last, with an equal quantity of calomel, is greatly extolled by many practitioners as an excellent cathartic in the early stage of dysentery; but in general it will

be more advisable to begin with small doses, increasing according to the effect produced. Other purgatives well adapted in dysentery, are castor oil, with or without an equal quantity of the oil of turpentine,e xtract of butter nut, sulphate of magnesia and manna, in a solution of which, a few grains of tartarized antimony should be dissolved. These form an ample variety for the choice of the prescriber. The spirit of Mindereus in doses of a table-spoonful, with six or eight drops of laudanum, given every two hours, has been found very useful in determining to the surface and relaxing the skin. During the intervals of the operation of the cathartics, small doses of calomel and opium, as directed in fevers, will be productive of excellent effects, by opening the secretions, deterging the intestines, and abating distressing pain. Nauseating doses of Ipecacuanha, as two or three grains three times a day, will prove useful by impelling the fluids towards the surface of the body; and this is, in fact, one of the most important curative indications. There is almost constantly a diminished action in the extreme vessels, and a coldness and dryness of the skin; nothing can be more important than to restore and equalize the circulation, and thereby induce a salutary diaphoresis. With this view, the most efficacious diaphoretics accompanied by friction, and the means of external heat, must be diligently and perseveringly applied. Perhaps no diaphoretic is to be preferred to Dover's powder, with the addition of a few grains of camphor to eash dose; this should be administered in such a manner as to excite some nausea, and repeat it every few hours, until free sweating be induced, and this continued for several hours, the patient being properly secured from the access of cold air. For the purpose of imparting external warmth, Dr. Jennings' steam bath, heated billets of wood, bladders or jugs of water, or heated bricks frequently renewed, may be employed. It has recently been anounced by Dr. T. Clark, an English physician, that a decoction of the root of Ipecacuanha has been administered as injections in dysentery with surprising success, and the practice has been successfully adopted by others. He directs for an adult, three drachms of the bruised root to be boiled in a quart of water down to a pint, strained and given all at once by way of enema, and repeated if necessary. The following preparation, has, by common report, gained some reputation as a remedy in this disease. Add to lemon juice, or strong vinegar, as much common salt as the

acid will dissolve. Give a large spoonful of this in a cup of mint tea, or hot water, sweetened, every two or three hours. After the proper evacuations have been made, opiates become indispensable to allay irritation; the extract of hyoscyamus, by its anodyne and gently laxative qualities, is also well adapted to this disease. Where languor and coldness of the surface and extremities have supervened, the repeated application of blisters and warm frictions to the extremities are auxiliaries of peculiar importance. The warm bath, or semicupium, or the partial fomentation of the abdomen, is often used with much advantage, and should in general be advised, especially where the abdomen is hard, tense, and painful to the touch, and the gripings are frequent and severe; camphorated spirits should be added to the fomentation, and if these fail to afford relief, a large blister must be applied to the region of the abdomen. Should an obstinate vomiting attend, it will be highly important to bathe the region of the stomach with tincture of opium, and camphorated spirits, and to inject into the intestines, proper quantities of opium, until relief is obtained. There is in dysentery, a spasmodic constriction of the intestines, interrupting their natural peristaltic motion. Upon this principle, some respectable and experienced physicians are in the practice of administering full and repeated doses of opium in the first instance, keeping the patient under its influence for some time, and when the constriction is removed, if evacuations do not follow, the mildest laxatives produce their speedy effect. With the view of abating the tenesmus, or continual straining, and desire of going to stool, which is one of the most distressing symptoms of this disease, clysters, made of half an ounce of powdered starch, dissolved in half a pint of barley water, or the same quantity of fat mutton broth, without the starch, with forty drops of laudanum, should be given twice every day. The pain attending the tenesmus may also be allayed by fomenting the anus with a decoction of chamomile flowers, with some tincture of opium sprinkled on the cloths which are applied. If strangury should occur, it will be effectually relieved by fomenting the pubes and perinæum. During the whole course of this distressing disorder, mucilaginous demulcent liquids must be given in the most liberal manner, for the purpose of defending the intestines against the acrimony of their contents, and alleviating the violent gripings which often prevail. For this intention, one ounce of gum arabic dissolved in a pint of bar-

ley water, or half a drachm of spermaceti, mixed with the mucilage of gum arabic may be advantageously employed, as also mucilage of slippery elm bark, or linseed tea.

But nothing can exceed the good qualities of melted fresh butter free from salt. "It is," says professor Chapman, of Philadelphia, "better than anything I know." If given freely internally, and in injection half a pint thrown up every hour or two, its good effects will soon be manifest. It relieves griping and tenesmus like a charm. In the early stage of dysentery, I should, from my own experience of its efficacy, place much reliance upon it to abate the distressing symptoms if not to effect a cure." We have seen the following preparation recommended in dysentery. Saturated solution of sulphate of soda in water six ounces, spirits of turpentine two ounces, ipecacuanha one scruple, sometimes three grains of opium is added. Half an ounce to once ounce is to be administered after every dysenteric stool, or it may be used in clyster. In the advanced and chronic stage of the disease, as acidity of the stomach chiefly prevails at that period, absorbents will be useful, as the chalk mixture, lime water, or the compound powder of chalk combined with opiates; astringents will also at this period of the disease be proper, as the kino, logwood, alum and catechu; when there exists a remarkable degree of debility, with a frequent discharge of stools without pain, small doses of white vitriol with opium, is well adapted to remove the complaint. Dr. Mosely, of Jamaica, asserts that in chronic dysentery, unattended with fever, there is not a more efficacious remedy than the following solution taken every morning, and an opiate at bed time. Take sulphate of zinc, three drachms, alum, two drachms, spirits of lavender, half an ounce, boiling water, one pint. Dose for an adult, from four to six drachms on an empty stomach without diluting it; in severe cases to be repeated every six hours. When evacuations are required, the quantity of alum may be diminished, or entirely omitted; and when astringency is required, the alum increased, and the sulphate of zinc diminished.

I have been informed from a source deserving of credit, that in some parts of the state of New-York, the root of the common blue flag is employed as a successful domestic remedy in dysentery; and one case has been reported to me by Dr. E. Sergeant of Lee, in which the discharges were bloody, acrid, and attended with severe

gripes; the patient without advice took a table spoonful of the powdered root of blue flag, the effect of which was immediately favourable, the pain was relieved, the stools were changed in appearance, and the next day he was in a state of convalescence, and he soonre covered.

In the last stage of the dysentery, we must endeavour to restore the lost tone of the bowels, by administering astringents and tonics, as simarouba, cinchona angustura, logwood, oak-bark, and the bark of the root of wild cherry tree, accompanied with Port wine, or the wine of black currants, to which a little cinnamon should be added; the bowels at the same time kept in a soluble state by the occasional use of rhubarb and magnesia. In this chronic form of the disease, should putrid symptoms prevail in any stage, yeast, as recommended in typhus gravior, will be useful, and the patient's drink should be sharpened with the vegetable acids, and ripe fruits, jellies, &c. may be freely used. Opium combined with the nitric acid, according to Dr. Thomas, has on various trials been found to have been attended with the best effects in the advanced stage of dysentery, when all other remedies have proved ineffectual, and even in cases where death seemed almost inevitable. It is administered in the following form: take nitric acid, two drachms, opium, two grains, pure water, three ounces, mix, and give a table spoonful three times in a day.

If this disease should be complicated with an intermittent fever, and protracted chiefly from that circumstance, the cure must be performed by the Peruvian bark.

The diet in the first stage should consist of milk, sago, panado, arrow root, jellies, veal or chicken broth, rice, gruel, &c. During the whole course of this disease the patient should wear a flannel roller round the body, as recommended by Mr. Dewar. In the application of this excellent contrivance four or five folds of flannel are first to be laid over the abdomen, and then a flannel bandage moderately tight should extend from the groin to the arm-pit. The advantages of this application are supposed by some to supersede the use of the warm bath, fomentations, and all other external remedies. In the chronic form of dysentery particularly, no application has ever been found of equal utility. It effectually obviates the impression of cold, imparts new vigour and energy to the torpid and languid vessels, and affords a mechanical support to the

intestinal canal. The drink at the commencement should be either barley or rice water, boiling water poured upon toasted bread, whey, or the decoction of hartshorn; in the advanced stage of the disease, Port wine, or Madeira, or a moderate quantity of spirits diluted with water will be proper; chamomile or thoroughwort tea if not offensive to the stomach, will often be useful.

It yet remains to be observed, that as dysentery is often of a very contagious nature, every precaution should be taken to prevent its spreading; both the patient and his apartment should be kept as clean as possible. Every thing about him should be frequently changed; his excrements as soon as voided, ought to be carried off and buried under ground; a free ventilation should be kept up in his chamber by means of the door and windows: and the floor ought frequently to be sprinkled with vinegar, and its vapour diffused through the room.

PESTIS TROPICUS, OR YELLOW FEVER.

The yellow fever was known to exist in Charleston (South Carolina), and in Philadelphia, so early as the year 1699, and in 1748 Dr. Lining, of Charleston, published an accurate history of it, and pronounced it an *imported disease*, and *contagious*. During our revolutionary war, it was recognized in our camps and hospitals. In 1793, it visited the city of Philadelphia, where it spread universal terror and desolation; and at divers subsequent periods and seasons, it has prevailed in most of our seaport towns, and in its fatality, equalled, if not exceeded, the plague itself, to which malady it bears a strong similarity, in many of its symptoms. The prevalence of this dreadful epidemic could not fail to occasion the greatest consternation and alarm, while at the same time it afforded opportunity for the display of talent and industry, in the investigation of its nature and origin. On a subject so recondite in its nature, a difference of opinion among the learned faculty is naturally to be expected. There were some who supposed that the yellow fever being of a contagious nature, was imported by ships from the West-Indies, while in opposition to this doctrine, Drs. Rush, Miller, and other learned investigators, firmly supported the opinion, that this malady originated from local causes, and is not in its nature contagious. They allege that the primary and essen-

tial cause of yellow fever, is a *miasma* or *pernicious exhalation floating in the atmosphere.* This miasma is emitted from accumulated masses of dead animal and vegetable substances, undergoing decomposition by means of solar heat combined with moisture.

Besides the high authorities above introduced, we have that of the learned and experienced Dr. Ramsay, and Dr. Tucker Harris, both of the city of Charleston, where the disease has often been prevalent, in favour of its local origin and non-contagious nature. Dr. Ramsay, in a letter to the late Dr. Miller, of New-York, says, "There is but one opinion among the physicians and inhabitants, and that is, the disease was neither *imported* nor *contagious.* This was the unanimous sentiment of the medical society, who, in pursuance of it, gave their opinion to the government, that the rigid enforcement of the quarantine laws was by no means necessary on account of the yellow fever." The fact is corroborated by their undoubted testimonies, that in no one instance has the yellow fever been communicated from one individual to another, even when a constant exposure had been unavoidable.* †

This fever is commonly ushered in with alternate slight chills and heats. Dr. Rush says the disease appeared with different symptoms in different people, and that the premonitory signs of it were costiveness, a dull pain in the right side, defect of appetite, flatulency, perverted taste, heat in the stomach, giddiness, or pain in the head, a dull, watery, brilliant yellow or red eye, dim and imperfect vision, a hoarseness or slight sore throat, low spirits, a disposition to sweat at night, or after moderate exercise, or a sudden suppression of night sweats. More or less of these symptoms frequently continued for two or three days before the patients were confined, and in some they continued during the whole time of the prevalence of the fever in the city, without producing the disease. Many went to bed in good health, and awoke in the night with a chilly fit; many rose in the morning after natural and regular sleep, and were seized at their work, or after a walk, with

---

* See Dr. Hosack's opinion in chapter on Contagion.

† "Nor have I seen an instance, during nearly twenty years constant practice in this disease, in which it appeared to me to be communicated from one person to another, or of its having originated from any exposure whatever, excepting in places peculiarly circumstanced."—*Letter on the Yellow Fever of the West-Indies, by D. Osgood, M. D. Practitioner of Medicine in the city of Havana.*

a sudden and unexpected attack. He observes, that it frequently came on with a weak pulse, and often without any preternatural frequency or quickness; and that, in some instances, it was so low as not to be perceived without pressing hard on the artery; in some cases, the pulse intermitted, and these intermissions occurred in several persons who were infected, but who were not confined by fever; in others, there was a more than ordinary slowness of the pulse, which was now and then accompanied with a dilated pupil of the eye. Hæmorrhages happened at the commencement of the disorder, chiefly of the nose and uterus; and as it advanced, the discharge of blood became more universal, and then issued from the gums, ears, stomach, bowels, and urinary passage.

Many complained of a dull pain in the region of the liver, but few felt any soreness to the touch, or pain at the pit of the stomach; in some, a determination of blood took place to the lungs, but the brain was chiefly affected with morbid congestion, which was indicated by the suffusion of blood in the face, redness of the eyes, dilatation of the pupils, pain in the head, hæmorrhages from the nose and ears, by sickness or vomiting, and by an almost universal costive state of the bowels.

With respect to the secretions and excretions, there appeared to be a preternatural secretion of bile, which was discharged from the stomach and bowels in large quantities, and of different qualities and colours, being in some cases yellow, and in others black. The urine was often plentiful and of a high colour; sometim e pale, and at others small in quantity and turbid; accompanied with sweats of a yellow colour, and highly offensive. On the first and second day, the tongue was invariably moist and white; but as the disease advanced, it became red, and put on a smooth, shining appearance; towards the close, a dry black streak appeared in its middle, which gradually extended to every part of it.

The effects produced on the nervous system were different, according as the fever affected the brain, the muscles, the nerves, or the mind. In a few instances, apoplexy was induced, which usually proved fatal; tremours of the limbs and twitchings of the tendons were common; delirium was a frequent symptom, but many passed through the disease without the least derangement of ideas: in some cases, the pain in the head was acute and distressing, and the stomach, towards the close, was affected with a burning or spasmodic pain of the most severe nature. Deafness and dimness

of sight sometimes took place. Thirst and want of appetite were present, as in most other fevers. In some cases the skin was preternaturally warm; in others it was cooler than in health. The yellow colour was by no means universal; when it did take place, it was seldom to be observed before the third day, but more frequently about the fifth or seventh from the first attack. The eyes seldom escaped a yellow tinge. There were eruptions of various kinds on the skin, and in the latter stage petechiæ were common; carbuncles also took place in some.

The disease ended in death in various ways. In some, it was sudden; in others, it came on gradually. The last hours of some were marked with great pain and strong convulsions; but in many, death seemed to insinuate itself into the system with all the gentleness of natural sleep.

It is to be remarked the symptoms in this fever are extremely variable in different subjects. Dr. Rush observed the disease in some instances continued for fifteen, twenty, or thirty days. Persons in the prime of life were most liable to it, and men more subject to its attack than women.

The symptoms that may be regarded as favourable, are, a settled state of the stomach, lessened head-ach, eyes lively, appearance of an eruption on the skin, free perspiration, copious and high coloured urine, bilious flux, and sound sleep. No disease, however, exhibits a greater variety of symptoms, and often less to be depended upon, than this; for sometimes it goes on with favourable appearances, then suddenly changes to the worst, and sometimes patients apparently almost in a state of convalescence expire in a few hours.

Youth and a plethoric state, are invariably circumstances of danger. A sudden oppression of all the functions at once; great debility; weak irregular pulse; sighing; severe vomiting of dark coloured matter; tremours of the body when moved, with a tendency to faint on the slightest exertion; pensive sadness in the countenance; and a dilatation of the pupils of the eyes, with coma; are signs of great danger. Black and fœtid discharges by urine and stool, the breath being highly offensive; and the appearance of petechiæ, portend almost certain death.

With regard to the most approved and successful mode of treatment in yellow fever, this has been a subject of no inconsiderable degree of contention among our most distinguished practitioners. It

seems, however, to be generally agreed, that in our climate, this most fatal disease, in its early stage, is marked by symptoms of inflammatory diethesis, and that it tends rapidly to a state of universal putrefaction. The antiphlogistic course as pursued by Dr. Rush, has been almost universally adopted in the first stage, and the earlier this was commenced, the more successful has been the result.

In this as in all fevers, the patient should abstain from animal food, and confine himself to gruel, panado, sago, arrow root, chicken broth, and other spoon meats; he should use cool diluting drinks, such as barley water, toast and water, lemonade, apple tea, tamarind water, hop tea, thoroughwort tea, and also ripe fruits, which tend to keep the bowels soluble. The chamber of the sick should be spacious and airy, and frequently ventilated, vinegar impregnated with aromatic herbs, should be frequently sprinkled, and diffused over the rooms, bed-clothes, &c. The passions of the mind ought to be calmed and composed. The excrements and every offensive thing, out to be immediately removed. These directions should be considered of great importance both to the sick, and to those whose duty it is to frequent their apartments.

The first indication in this fever is to subdue the inflammatory diathesis by the most speedy means in our power. The second is to arrest, or obviate as much as possible, its progress to a putrid state, and at the same time to support the strength of the patient. Bleeding and purgatives are the means most suited to accomplish the first intention. Bleeding ought, however, to be performed as soon as possible after the attack, within the first twenty-four hours, or at most within thirty-six. The operation may be repeated with a view of alleviating the violent pains of the head, eyes, &c. provided it be performed within the time prescribed.

In order to moderate the violent determination to the head, the feet should be bathed in warm water, and an opening clyster occasionally administered. As obstinate costiveness generally prevails, and the stomach is seldom capable of retaining those purgatives which are in common use, no one can be better adapted to circumstances than calomel and jalap combined; four grains of the former, with eight or ten of the latter, may be given either in powder or pills every four hours, until a proper effect is produced; and either by this medicine, or more lenient purges, as castor oil, soluble tartar or Epsom salts, four and five evacuations every day should be procured. Mercury when given so as to excite a degree of saliva-

tion has been found a more successful remedy in yellow fever than any other which has been employed. To insure its success, it should however, be exhibited at the very commencement of the disease, and be so conducted as to affect the mouth before the dangerous symptoms of the second stage of the fever make their appearance; after the second stage has come on, but more especially when signs of putrescency are present, mercury aggravates and increases the danger, if not accelerates the fatal event. When incessant vomiting prevents the use of calomel in sufficient doses to effect a speedy salivation, mercurial frictions have been successfully substituted. In this form mercury may be employed at any period of the disease, so long as the extremities continue warm, and the absorbents preserve their power. From half a drachm to one drachm of the strongest mercurial ointment should be rubbed into the thighs, hams, legs, and arms, every four hours, and calomel either by itself or combined with opium, may be exhibited internally at the same time. When a gentle ptyalism takes place, these remedies ought to be immediately discontinued, and only nourishment and wine be given, as all danger is then supposed to be over, and the recovery of the patient to be almost certain.

In cases of great irritability of the stomach, where excessive vomiting prevails, the early application of a blister immediately over the part will often be attended with the happiest effects. The vomiting has sometimes been known to cease upon the application of a large poultice of mustard flour to the stomach and feet, which occasioned a very extensive and painful inflammation of the skin. The saline mixture, administered so that the effervescence may take place in the stomach, with an addition of ten or twelve drops of tincture of opium to each dose, will frequently have the effect of checking obstinate vomiting.

When symptoms of putrefaction have occurred, the Peruvian bark must be given in as large doses as the stomach will bear, either in substance, decoction, or infusion, and also by way of clyster. The mineral acids, especially the muriatic, would undoubtedly be very serviceable in this fever, and they ought on no account to be omitted.

The affusion of cold water over the body, or aspersion, or sponging the body with vinegar and water on the first onset of yellow fever, agreeable to the rules advised by Dr. Currrie, have proved eminently serviceable, and effected cures in a variety of instances.

The proper directions for the use of this remedy will be found in the foregoing chapters.

In a state of convalescence, the patient should avoid every thing which may tend to bring on a relapse; such as a too early exposure to improper exercise, food, and drink. He should eat but little at a time, and that little should be easy of digestion. Morning and evening air should be avoided at all events. Bark should be continued in moderate doses, until the debilitated system is invigorated, the digestive faculty repaired and strengthened, and the patient returns to his usual mode of living.

During the prevalence of yellow fever in Philadelphia, in 1793, it is well known that Dr. Rush adopted the method of copious bleeding and mercurial purges, and with such success, that "in his joyful state of mind, he entered in his note-book, dated the 10th of September, 'Thank God! out of one hundred patients, whom I have visited or prescribed for this day, I have lost none.'" "It is probable," says Dr. Ramsay, in his eulogy on Dr. Rush, "that not less than six thousand of the inhabitants of Philadelphia were saved from death, by purging and bleeding, during the autumn of 1793." Dr. Ramsay further observes, "The objections that have been made by some to Dr. Rush's principles and practice, as leading to an indiscriminate use of the lancet, mercurial purges, and consequent salivation, in the treatment of yellow fever and other dangerous diseases, are without foundation. His system reprobates all prescriptions, but those that are founded on their suitableness to the present circumstances of the patient. His treatment of the yellow fever in twelve successive years, is distinctly laid down in his works, and is not precisely the same in any two years." In a letter to Dr. Ramsay, dated October 15th, 1803, Dr. Rush observes, "our epidemic has been more tractable than in some former years. I have bled sparingly, purged freely, blistered early (sometimes on the first day), sweated profusely, with almost universal success. The last remedy was suggested to me by the moisture which I found upon touching the wrists in my first visits to my patients. I have not found it necessary to salivate in a single case. The violent pain and inflammation excited on the arms by the blisters, was a substitute for a sore mouth, and happily saved the stomach and brain by a new and revulsive action on the fourth and fifth days." To those who charged Dr. Rush with using strong mercurial medicines for ordinary com-

plaints, he replied, "that he was not in the habit of destroying mosquitoes with cannon bullets."*

"The yellow fever differs from typhus gravior in the following circumstances, viz. it usually prevails only during, or immediately after very hot seasons, in which typhus is soon extinguished; and it is, in its turn, completely annihilated upon the accession of cold weather, in which typhus is commonly most prevalent, particularly if accompanied with humidity of the atmosphere. It attacks most readily and violently the young and robust, over whom typhus is allowed to have the least power; it begins with much greater exertions of the living power than typhus, is attended with many symptoms of a different nature, and it frequently changes into a regular remittent, and sometimes even to an intermittent fever, which true typhus is never observed to do."

The author has been highly favoured by receiving from Dr. J. L. E. W. Shecut, of Charleston, Dr. W. R. Waring, of Savannah, and Dr. D. Osgood, of Havana, their respective publications on the subject of yellow fever. Each of them having resided many years in cities where the devastations of this disease, in all its forms, have been almost unparalleled—in regions where death draws the tragic picture of his ravages in the strongest colours; such authorities, therefore, must be held in the highest estimation, and I avail myself of their sentiments and views, as respects the causes, pathology, and cure of epidemic yellow fever.

"1st. The predisposing cause is a peculiar derangement of the atmospheric air, by being deprived of a due proportion of the electrical fluid, either from excessive hot and dry, or hot and moist summers; in consequence of which its vital influence is either in greater or less degree diminished, and a *specific gaseous poison* is generated therein; which, being inhaled by persons peculiarly predisposed, produces, according to the degree of predisposition, either a common bilious remittent fever, or that more violent and deadly form, yellow fever. 2d. A peculiar state or *diathesis* in the animal economy, particularly predisposing it to disease, and which is speedily called into action by the morbid effects of the noxious existing power, or *gaseous poison* of the atmospheric air, thus deranged." "The same identical powers which restore the electrical equilibrium in the atmosphere, are the same powers

* Ramsay's Eulogy.

which put a stop to the further ravages of this fever, and these are thunder, lightning, and frost.*" *Marsh miasmata*, in its simple uncombined state, or combined with animal putrefaction, generates in the air a *specific gaseous poison*, capable of producing, not only intermittents, but the highest grades of fever, according to the abundance of moisture, solar heat, local circumstances, and susceptibility of the subject of it. Whenever there is superadded to this peculiar combination, a cause productive of malignancy, it then becomes infectious or contagious, according to circumstances, and it is according to the degree or the diminished or accumulated powers which produce our epidemics, that they assume such various types in different seasons.

The gaseous poison produces in the stomach effects very analogous to those of arsenic when received into that organ. The symptoms and effects will be nearly or altogether similar in both cases. The closing scene of both are the same, or so nearly the same, as has been proved by dissection, as to admit the belief that their effects on the animal economy differ only in proportion to the quantity of the mineral producing more speedy and more fatal effects in less time than that produced by the *specific* gaseous poison of yellow fever. The epidemic yellow fever prevailed in Savannah, in 1820, with unprecedented mortality. At one period, the deaths, as estimated, were in the astonishing proportion of one to five of the population. That most formidable and mortal symptom, which is considered as almost characteristic of the disease, *black vomit*, was unusually frequent. It consists of a quantity of blackish matter, resembling coffee-grounds, intermixed with flaky substances that float among the discharges. This is neither corrupt blood from the stomach, nor a secretion from the liver, as has been suggested by some. During the epidemic at Savannah, the stomach seemed to be the constant, and perhaps universal seat of the disease. Not only the external appearances, but almost every instance of dissection, evinced this fact; the same kind of blackish matter as that which constitutes the black vomit, was found in the stomach, and marks of inflammation, or *erythema*, were evident. The inflammation, or the morbid effect, was generally confined to the internal coat in the latter stage of the disease. In the beginning, the muscular coat felt its influence, in some degree, as ap-

* Shecut on Yellow Fever.

peared by the more frequent vomiting : this was the case in the incipient stage, or stage of irritation, before the establishment of inflammation. As the soreness of the epigastrium increased to the touch, that is, as the inflammation of the inner coat was augmented and confirmed, the affection of the muscular coat, or disposition to vomit, diminished. The stomach was often found in the highest state of inflammation, and sometimes filled with the matter of black vomit, when there had been very little vomiting, or none at all. Irritation appears to dispose much more to this effect than actual inflammation. The inner coat of the stomach was inflamed in different degrees, over its whole extent. In some instances, in robust and strong subjects, the blood-vessels of the stomach were so rapidly distended as to burst, and the cavity was filled with pure blood.

The yellow fever seizes more readily those who are strangers to the climate in which it prevails, and the robust, athletic and plethoric, are the subjects of its greatest violence and mortality. In a disease so extremely diversified in its forms and stages, no one mode of treatment, or particular remedy, can apply universally, nor is it possible to prescribe a uniformity in the rules of practice ; much will depend upon a judicious discrimination between the various subjects. Both principle and experience dictate the antiphlogistic course of curative treatment. Inflammation must be subdued in the earliest period of attack ; morbid excitement must be diminished. In the robust and plethoric, the lancet is to be the first resort, but guarded with circumspection. Whether one large full bleeding, or smaller quantities taken at short intervals, must be decided by its effects, and the urgency of circumstances.

The next essential point, or the first where venesection is improper, is to evacuate the intestinal canal, by calomel alone, or conjoined with jalap, according to the practice of Dr. Rush. This is to be regarded as a very essential part of the cure, as evacuating the retained offending matter from the first passages, and favouring all the intestinal functions, and also relieving the diseased fulness of the blood-vessels of those parts. A mercurial course to the point of ptyalism, and the whole treatment of Dr. Rush, as detailed in the preceding pages, together with the cold affusion or sponging of Dr. Currie, were generally adopted by Drs. Waring and Osgood. In addition to the above, in a few instances, trial was made of oil of turpentine, the utility of which, as a remedy, re-

mains doubtful. Sugar of lead proved injurious. Equal parts of milk and lime water, to the quantity of twelve ounces in twenty-four hours, exclusively of any other food or drink, often suppressed the vomiting, even after black vomit had ensued. Two tablespoonfuls of fresh yeast, in a cup of warm water, every hour or two, was of much service, and an infusion of hops and good old porter was useful. When inflammatory symptoms had subsided, and the irritability of the stomach continued, the black vomit has been cured by the administration, every three or four hours, of three grains of capsicum, made into pills with dough, so as to prevent a burning effect on the throat. Antimonials were rejected as pernicious. External stimulating applications were employed with considerable advantage, and blisters to the inside of the upper arms, and kept open, afforded great relief to the stomach when in a painful state of irritation.

But it must be observed, that in numerous instances at Savannah, all the skill and efforts of the most attentive medical attendant, having at command the whole powers of our materia medica, were set at defiance, and the faithful physician could only witness the triumph of death over its devoted victim.*

When we consider that the yellow fever is a disease of warm climates and hot seasons, and consider also that in some of its

* In order that nothing may be omitted that can tend to improve our knowledge of remedies for the yellow fever, I am induced to introduce the following singular piece of intelligence. In a letter upon yellow fever, dated Madrid, Nov. 11, 1819, from Dr. M. Lagasea, to L. Dufour, M. D. we find stated the case of a captain of a regiment, twenty-five years of age, who was seized with the fever, and whose symptoms are detailed. "Twenty-four hours after the attack (says the Dr.), I judged that the unfortunate man would fail, whatever method of treatment might be adopted, (for as yet he had taken nothing.) At first I attempted to inspire him with an exaggerated confidence, and then I made him take half an ounce of cinchona at a dose, recommending to the nurse to give him the same quantity an hour after. This nurse, who had been treated and cured by Lafnente's method, thought it a duty to surpass my directions, and made him swallow an ounce and a half at once. Half an hour after this imprudent dose, I found the patient extremely uneasy, the face inflamed, the pulse much raised, a very sharp heat, and inexpressible restlessness, all which left me very little hope. But after the nurse had informed me of the cause of these unexpected symptoms, I was easy upon the subject, and in an hour and a half afterwards, I gave him two drachms of cinchona. The pulse soon became large, full and strong, the skin assumed a breathing suppleness, and finally a copious sweat appeared. In the space of twenty-six hours, he took sixteen ounces of cinchona, in powder. Fifty-six hours from the first attack of the disease, he earnestly requested food. Soup and wine were allowed him. The following day, I met him walking in full convalescence. A perfect cure soon followed."

forms and symptoms it bears a strong analogy to the malignant autumnal bilious remittents; is there not ground to conjecture, that cinchona may be a remedy of specific efficacy, if given in large doses before the fever has completely formed its inflammatory stage. Will the supposition be deemed more preposterous, than would have been, a few years ago, the practice of abstracting from the human system more than one hundred ounces of blood in a few days, or administering, as a remedy, near twelve ounces of mercury to an individual, in five days. See page 18, of this volume.

The proper means of prevention of yellow fever, are inserted and particularly recommended in the chapter on contagious diseases.

CLASS II.—PHLEGMASIÆ, OR INFLAMMATION.

PHLOGOSIS, OR PHLEGMON.

THIS is defined, "Inflammatory Fever, with redness, heat, and painful tension of an external part." Almost every part of the body is liable to inflammation, and when confined to one particular point, it is called local or topical; but when the whole system becomes affected, it receives the appellation of general inflammation. Numerous hypotheses or opinions respecting the true nature and cause of inflammation, have for ages been advanced, and for a time sustained; but even at the present day, the various doctrines appear to be considered altogether problematical. In every inflammation there is increased impetus and accumulation of blood in the vessels affected, accompanied with a sense of tension and heat; the sensibility and irritability of the part are increased, its vessels distended beyond their natural tone, and the circulation of blood through them rendered more rapid. Whether the cause of inflammation be ascribed to a spasmodic stricture of the blood vessels, a lentor, or viscidity of the circulating fluid, or to an error loci, it is certain that this affection in general depends upon a phlogistic diathesis in the system of the individual. Authors have divided inflammation into two kinds. That circumscribed affection of the skin and cellular membrane, with a swelling of a bright red colour, attended with a throbbing pain and distention, which terminates in

the formation of pus, is called Phlegmonous inflammation. When the affection is confined principally to the skin, when seated outwardly, and to the mucous membrane, when internally, and appearing of a mixed red colour, readily disappearing upon pressure, but quickly returning again, it is denominated Erysipelatous inflammation, or, as it is sometimes termed, Erythematic inflammation.

Phlegmonic inflammation, in its usual course, terminates either by resolution, suppuration, effusion and adhesion, or gangrene, or, on some occasions, when seated in glandular parts, this species of inflammation terminates in scirrhus and cancer. Phlegmon most generally arises from some external injury, as by wounds, bruising, burning, overstraining any part; or by some extraneous substance, lodged in the integuments, muscles, or cellular membrane, producing irritation, or by the application of cold by which perspiration is obstructed. It appears in the form of a circumscribed tumour, assuming a florid colour, attended with itching, dryness, tension, and increased heat, and soon after, a shooting and throbbing pain ensues. The symptomatic inflammation is frequently so considerable as to affect the general system, the pulse becoming full, hard, and quick, the skin dry and hot, with great thirst, &c. For the removal of this complaint, it should be our first object to effect a resolution of the tumour, if practicable, and to obviate the phlogistic diathesis either of the whole system, or of the particular part which is affected. If any extraneous substance should be the exciting cause, this, without a moment's delay, should be removed, dilating the external wound, if necessary. Should the general inflammation run high, it will be seen that bleeding from the system, and the use of saline cathartics, will be requisite; but in cases of local inflammation only, the common antiphlogistic applications may be relied on for the purpose. A proper quantity of blood, however, may be drawn from the neighbourhood of the part affected, by means of cupping glasses, or a number of leeches, which is preferable, increasing the flow of blood by linen cloths dipped in warm water, often repeated. The discutient remedies best adapted to disperse an incipient phlegmon, are, a poultice of rye meal or crumbs of bread, moistened with a weak solution of the acetate of lead, which should be applied cold, and renewed twice or three times in a day; or if a poultice, from its weight on the tender part, is found inconvenient to the patient, cloths wet with the

water of acetate of ammonia, with an equal quantity of alcohol, or a solution of the muriate of ammonia in vinegar and water, may be employed as convenient and useful substitutes. These should be renewed as often as they become warm to the part, and if steadily persevered in for several days, in many instances the inflammatory symptoms will be subdued, and a suppuration prevented. If, however, the tumour should continue to increase in size, and show the usual signs of a suppurative process, a different course of remedies must be adopted. The progress of suppuration must be accelerated by the application of warm emollient cataplasms, frequently renewed. Poultices composed of the following materials will be found far preferable to any others. Linseed, a little bruised, or the roots or leaves of marsh mallows, or the inner bark of slippery elm, boiled in milk and water, with the addition of a little crumb of bread. Before the application of each poultice, it will be useful to foment the part with flannels wrung out of a warm decoction of emollient herbs, such as chamomile flowers, the leaves of marsh mallows, or poppy heads. When by the use of these means the suppurative process is completed, and a maturated abscess is formed, manifesting itself by the tumour becoming more prominent, the skin at the apex becoming thin and white, and an increased redness at its base, with a fluctuation of matter near the surface, perceived by a pressure of the finger, we need not hesitate to make an opening in the most depending part, for the discharge of its contents. Instances will occur, in which the usual emollient applications will not effect our purpose, without the addition of more stimulant ingredients, in which cases, roasted onions may be employed, and sometimes warm plasters of Galbanum, or Burgundy pitch, will be useful instead of the poultice. The inexperienced practitioner will occasionally meet with embarrassing cases, where the matter is deeply seated, and the integuments exhibit very little of the usual inflammatory appearances. I have not unfrequently been called to witness swellings of the extremities, ascribed to rheumatic affection, and treated accordingly, greatly to the disadvantage of the patient, and discredit of the medical attendant. There are few occasions on which more skill and correct judgment are manifested, than in detecting a collection of matter, when deeply seated in the interstices of the muscles. A patient, in a hot day, the last summer, in consequence of wetting his feet and legs in a cold stream, while in free perspiration,

was affected with a tumefaction of the whole thigh. This was for some time injudiciously treated by blistering and the usual embrocations for rheumatism, without relief, until, at length, a different course was directed, and a deep incision being made, about four pounds of purulent matter was evacuated, and the discharge continued for many months, during which, no less than eight abscesses occurred in succession, in various parts of the body, not one of which was attended with pain or sensible inflammation, not even a discoloration of the skin, but when opened, purulent matter was discharged, and as no means could produce a healing disposition, the patient died from exhaustion occasioned by the immense discharge.

In all cases of phlegmon, it will be proper to keep the bowels in a soluble state; and to moderate the febrile heat, a few grains of the nitrate of potass ought to be given several times in a day. The powder of calomel and opium used in fevers, will tend much to promote a suppuration, and to quiet irritation. At the close of the complaint, the cinchona, in large doses, will be indispensable. The food, at the same time, must consist of articles of a cooling, but nutritive nature, easy of digestion. For the most proper method of obviating a tendency to gangrene or scirrhus, and the mode of treatment in those affections, the reader is referred to books on surgery.

Anthrax, or Carbuncle, is a hard circumscribed tumour, seated in the skin, and of a purple hue, early exhibiting a tendency to sphacelus; occurring for the most part in advanced life, and in a vitiated habit of body. Dr. Hosack's mode of treatment is, to support the strength of the patient by a nutritious and stimulant diet, and a free use of bark and wine; at the same time preserving the tone and action of the part itself, by frequently washing the tumour with spirits or brandy, and by the constant application of a poultice composed of bark and yeast; and the result has in all instances been successful.

ERYSIPELAS, OR ST. ANTHONY'S FIRE.

The erysipelas consists of an inflammation of the skin, accompanied with an inflammatory fever; and when the inflammation is

confined to the skin, and is unattended by any affection of the general system, or when the affection of the system is only symptomatic of the external inflammation, the disease is termed erythema. When the whole system is affected, and the external inflammation is only symptomatic, the disease is termed erysipelas. It most frequently appears in autumn, or when hot weather is succeeded by cold and wet; and is very apt to return, and sometimes periodically, in those who have once been afflicted with it; sometimes it is a primary disease, and at other times only a symptom of some other disorder. Any part of the body is liable to its attack, but it most commonly seizes the face and legs, especially the former.

The erysipelas is generally preceded by cold and shivering, after which come on heat, thirst, restlessness, and other feverish symptoms. When the face is the part affected, it swells suddenly with great pain, and a shining redness, inclining to yellow, on which appears a number of small pimples, containing a thin colourless fluid. One or both eyes are sometimes so much affected as to be closed up. The inflammation sometimes terminates in seven days; but at others it will continue for ten or twelve, and at last goes off by a plentiful sweat. In the worst cases, the brain is affected with the complaint, and a delirium or coma ensues.

When the disorder seizes the breast, the part swells, and becomes hard with great pain, which sometimes ends in an abscess or ulcer. A violent pain is felt in the arm-pit of the side affected, and there also the same event frequently ensues.

Whatever part be affected, when the swelling falls, the heat and pain abate, the redness which before prevailed, becomes yellow, and the skin falls off in scales.

Such is the progress of the disorder, in its milder state; but when the swelling is large, deep, and affects a sensible part of the body, there is no small ground for apprehension. If the red colour changes into a livid or black, a mortification is near at hand; and the same fatal event is apt to take place when the swelling instead of being discussed, which is the only favourable termination, proceeds to suppuration. When this disorder proves mortal, the patient commonly dies on the seventh or eighth day, being carried off by the fever, which is attended with difficulty of breathing, and often with delirium and great drowsiness.

This disease is brought on by the several causes which are apt to excite inflammation; such as injuries of all kinds, the external

application of stimulants, &c. and by violent passions or affections of the mind. It may be occasioned by a stoppage of natural or artificial discharges, such as the piles, issues, setons, or the like. It is frequently produced by drinking or bathing in water that is too cold; and exposure of the body to the cold air immediately after it has been heated to a great degree, giving a sudden check to perspiration.

In the treatment of erysipelas the patient must neither be kept too hot nor cold, as either of these extremes will tend to make it retreat, which is always to be guarded against. When the disease is mild, it will be sufficient to keep the patient within doors, without confining him to his bed, and to promote the perspiration by diluting liquors, &c.; the diet ought to be slender and easy of digestion, and rather of a cooling nature, avoiding animal food, spices, pickles, and all other things that may heat and inflame the blood: the drink should be barley water, toast and water, infusions of sage, and elder flowers, common whey, &c.; a little wine may be added, in case the pulse become low and the spirits are sunk. Some diversity of opinion has prevailed concerning the propriety of external applications in erysipelas. It has been supposed that the mildest softening fomentations, equally with cold astringent lotions, were attended with considerable danger, but in the opinion of Dr. Thomas, cooling lotions are productive of real advantage. He employs cloths wetted with equal parts of the liquor ammon acetatis, or muriated ammonia dissolved in water, with the addition of a little vinegar and camphorated spirits, as affording much benefit and relief to the feelings of the patient. Flour, or powdered starch, sprinkled over the inflamed skin, is considered to be one of the best remedies.

When the patient is of a plethoric habit, and the signs of considerable inflammation are present, bleeding will undoubtedly be justifiable and proper. If the patient has been accustomed to the use of spirituous liquors, and the head be much affected with the disease, the loss of some blood will be highly necessary; the quantity must be regulated by circumstances, and a repetition of the operation is to be determined by the symptoms. But in the milder cases, it will be sufficient to employ gentle purges, such as crystals of tartar, or Glauber's salts and manna. If the swelling and inflammation attack the face or brain, the feet and legs ought to be frequently bathed in warm water, strong purges given; blisters

should be applied to the neck or behind the ears, and antimonial diaphoretics must be administered.

Erysipelas may be combined with phlegmon, and a collection of matter formed under the skin, which is denominated erysipelas phlegmonides.

When the inflammation cannot be discussed, and there appears a tendency to produce matter, this ought to be promoted by warm fomentations made of chamomile flowers, and the roots of the marsh-mallow; and with poultices of bread and milk, or of linseed, than which nothing can answer better for this purpose. When, on the contrary, there appears a tendency to mortification, which may be known from the black or livid colour of the part, cloths dipped in warm camphorated spirits should be immediately applied, and renewed often, at the same time that the part be frequently fomented with a strong decoction of the Peruvian bark. In this dangerous case the bark must likewise be given internally, in as large doses as the stomach will bear, even to the extent of a drachm every two hours, with ten or fifteen drops of elixir vitriol in each dose. The use of nitre has been much recommended in this disease, and it is one of the best medicines, when the fever and inflammation run high, if given in doses of ten or fifteen grains every three or four hours.

If the swelling should suddenly sink, and the sharp humour appear to strike in, and to be followed by oppression and anxiety, with a weak pulse, a free use of wine will be proper, together with the volatile spirits and the compound spirits of lavender.

In what is called the scorbutic erysipelas, which continues for a considerable time, it will only be necessary to give gentle laxatives, and such things as purify the blood and promote perspiration.

There is another species of erysipelatous inflammation, which most usually attacks the trunk of the body, and is that which is known by the name of shingles. It surrounds the middle of the body like a belt, in the form of little pimples of a yellowish colour, but more frequently blackish, and both in appearance and their corrosive quality resemble a tetter. The fever which attends this eruption is commonly slight; but if the pimples should be driven back, the event might prove of dangerous consequence.

Those who are subject to frequent returns of the erysipelas, ought to be sparing in the use of fat meats and strong drink, and

confine themselves chiefly to a vegetable diet. They should guard against costiveness, and avoid the extremes of heat and cold. Moderate daily exercise is equally advantageous to health and the prevention of the complaint; and to wear a flannel waistcoat next to the skin has by many been found highly serviceable.

PHRENITIS, OR INFLAMMATION OF THE BRAIN.

An inflammation of the brain is sometimes an original disease, but more frequently symptomatic, arising during the progress of general fever, or in consequence of a translation of rheumatism, gout, erysipelas, &c. It may affect either the membranes of the brain, or the brain itself.

The causes of this disease are violent fits of anger, long want of sleep, concussion or other mechanical injury of the head, intoxication, long exposure of the head to the intense heat of the sun, and the stoppage of either natural or artificial evacuations, such as the bleeding piles, menstrual evacuation in women, drying up of issues, setons, or any old ulcers.

The symptoms are, intense pain and sense of fulness, or stricture within the head, redness and turgescence of the eyes and face, the eyes very irritable and extremely impatient of light, continued watchfulness, and fierce delirium, accompanied with violent fever. When the brain itself is inflamed, the pulse is always soft and slow; but when the membranes only are affected, it is harder and quicker. There is usually a great throbbing of the arteries of the neck and temples, a costiveness, and dryness of the skin, a retention of urine, and a black and dry tongue, but without thirst.

A phrensy, whether idiopathic or symptomatic, may always be regarded as a dangerous and alarming complaint; it often proves fatal between the third and seventh day; and if long protracted, is apt to terminate in mania, or great prostration of strength: it often terminates in stupor and insensibility. Grinding of the teeth, white or ash coloured fæces, suppression of urine, startings of the tendons, with convulsions, cold sweats, a fluttering pulse, and coma supervening on delirium, denote a fatal termination: on

the contrary, when there is a copious hæmorrhage from the nose, mouth, or lungs, or even from the urinary passages, or hæmorrhoidal vessels, or when diarrhœa ensues, when the delirium is relieved by sleep, the perspiration is free and general, the pulse less frequent, but fuller and soft, and the febrile symptoms become milder, there are hopes of a recovery.

For the cure of this disease, large and repeated bleedings must be considered as of primary importance, proportioning the quantity to the age and constitution of the patient, and the severity of the symptoms. Opening the jugular vein or temporal artery, may perhaps be preferable to drawing blood from the arm, and taking a considerable quantity at once is better than repeated small bleedings. After this operation, leeches, or cupping-glasses, should be applied to each of the temples; and endeavours should next be made to solicit the motion of the blood towards the lower extremities, by bathing the feet in warm water, and by applying to them poultices or sinapisms.

It is important that the head be shaved, and frequently washed with warm water and vinegar, or with ether. Linen cloths wet with these, and often renewed, are particularly serviceable in inflammatory affections of the brain; while all cold applications diminish the discharge by perspiration, so essentially necessary for the removal of inflammatory action. Blisters, too, when applied to the head, have a direct tendency to aggravate the excitement of the brain by increasing the determination of the blood to the head; whereas, if applied between the shoulders or to the extremities, they will, by creating a new irritation, divert the current from the primary seat of the disease.

With the view of diverting the blood still more from the head, cathartics of jalap and calomel, or other strong purgatives, should be given, and repeated every second day until the desired effect be produced. A copious discharge from the intestines has been found by experience highly beneficial in diminishing the determination of the blood to the head.

If there be reason to suppose that the disease proceeds from the stoppage of any particular discharge, it ought to be restored as soon as possible, or some other substituted in its place.

During the course of the disorder, the patient ought to be kept quiet and composed, and should be indulged and gratified in every thing as far as his safety will allow. His chamber ought to be

kept in a moderate degree of temperature, and the light so far excluded as may be agreeable to his mind and feelings. He should lie with his head considerably raised.

The patient's food should consist of water gruel, panado, arrow root, and other mild substances, and his drink may be barley water, lemonade, or other cooling things, which may suit his inclination, and ten or fifteen grains of nitre should be given every two or three hours.

Where the brain has suffered much injury by a long distention of the vessels, it sometimes happens that the patient's senses never perfectly return, but there remains a degree of imbecility or weakness of mind during life.

OPHTHALMIA, OR INFLAMMATION OF THE EYES.

The eye is a complex and delicate organ, and greatly susceptible of inflammation, sometimes in consequence of other affections of the eye and adjacent parts, but frequently ophthalmia is itself the primary disease.

In general, the inflammation of the eye may be distinguished into two kinds; one of which is seated in the membranes, or coats of the ball of the eye, and the other in the edges of the eye-lids. But though either of these may at first exist separately, yet as one may excite the other by sympathy, they are frequently connected together in the progress of the complaint.

The causes producing ophthalmia, are external injuries of the head, as blows, contusions, and wounds; extraneous bodies of an irritating nature introduced under the eye-lids; exposure to bleak winds and cold; too free a use of spirituous liquors; the suppression of accustomed discharges, as the healing of old ulcers, drying up of issues, &c. It may be occasioned by a long application of a strong light, or exposing the eyes to the vivid rays of the sun, by night watching, especially reading, or writing by candle light, and in smoky rooms. A prevailing acrimony in the mass of blood, will also produce ophthalmia, and it is often symptomatic of other diseases, such as measles, small-pox, scurvy, scrofula, and syphilis.

The inflammation of the membranes affects commonly the white of the eye; in which it excites a redness attended with more or

less pain and generally an affusion of tears. There is also an unnatural sensation of heat in the eyes, with itching, and an uneasiness, seeming as if it arose from particles of sand in the eyes. The patient cannot bear the light, and in irritable habits, the pulse will be quick and hard, the skin dry, and some degree of fever will ensue.

Where one eye only has been affected, it is often succeeded by an inflammation in the other, particularly in a scrofulous habit.

The mild acute ophthalmia, may be easily cured by means of low diet, gentle purging with Glauber's salts, and removing any extraneous body that may have insinuated itself beneath the eyelid; after which, the eye should be repeatedly washed with a decoction of marsh-mallow flowers, or leaves, boiled in new milk, and then covered with a soft emollient poultice, made of the mucilage of slippery elm bark and crumbs of bread, or of linseed alone, included in small bags of fine muslin. The inflammatory stage, by the above treatment, will cease in four or five days, when an astringent collyrium of sulphate of zinc (white vitriol,) will soon complete the cure.

In the severe acute ophthalmia, all the symptoms are greatly aggravated, and the patient, when the pain in the head is violent, and continues long, is in danger of losing his sight. A very close attention, and rigid application of remedies become indispensably necessary; the antiphlogistic treatment must be observed in its full extent. The diet can scarcely be too spare, especially in the begining, the patient must abstain from every thing of a heating nature, and confine himself chiefly to mild vegetables, weak broths, and gruels, and his drinks should also be of a cooling nature. Both general and topical blood-letting should be spedily adopted, and repeated in such quantities as the violence of the symptoms, and other circumstances may appear to justify and require. It will perhaps be more beneficial if blood is drawn from the jugular vein or temporal artery. Leeches should be applied to the temples, and to the vicinity of the eye-lids, the wounds must be suffered to bleed for several hours, and the discharge promoted by the application of cloths dipped in warm water.* Purgatives of jalap and

* "I have known in one case, seventy bleedings required for the cure of an obstinate acute ophthalmia, the quantity of blood lost at each operation was generally six or eight ounces. In the Pennsylvania hospital, I have generally directed the

calomel, or the neutral salts, are in this stage of the disease remedies of importance, and ought to be frequently administered. Blisters should be applied to the nape of the neck, and to the temples, or behind the ears, and if applied directly over the orifices made by the leeches, they will be still more efficacious. The patients feet ought to be bathed in warm water, and all applications to inflamed eyes, should be made warm. Cold water, applied to the head or eyes is constantly injurious. The patient should be directed to observe perfect quietude, and to lie with his head in an elevated position, and his eyes secluded from the light.

Topical emollient applications to the inflamed eye, are of great utility, and should never be neglected. The most eligible are the decoction of marsh mallows, and the emollient poultices mentioned above, which ought to be renewed every two hours. All liquid remedies are best applied by means of an eye-cup, or glass, and held in such a manner, that the eye-lids may be opened and shut, while immersed in the liquor.

When the inflammation runs high, the vessels of the white of the eye and of the whole inside of the eye-lids, become extremely numerous, enlarged, and turgid with blood. In this case, great benefit has been experienced from scarifying the turgid vessels daily with a lancet, which, by a steady hand, may be done with perfect safety.

In such instances of violent inflammation, and swelling of the eye, Mr. Ware, a celebrated English occulist, has experienced the most essential relief from the application of æther. A few drops are to be poured into the palm of the hand, and diffused over it by pressing the other hand against it. The hand is then to be applied to the eye, and kept so close to it, that the spirit as it evaporates, may insinuate itself into the part affected. Mr. Ware, has also found the vinous tincture of thebaic, eminently serviceable when evacuations and other proper means have diminished the inflammatory action, and excessive irritation. Two or three drops of the tincture may be insinuated between the eye and eye-lids, and made to glide gradually over the eye. When first appli-

---

patients afflicted with acute ophthalmia, to be bled every other day, and on the intermediate day to be purged; to live upon a very abstemious, diet and to remain constantly in a dark room. These are, in almost every recent case, very speedily successful, and active measures ought surely to be preferred to tampering with serious diseases." *Dorsey's Surgery, Vol. I. p.* 298.

ed it causes a sharp pain, accompanied with a copious flow of tears, which continues a few minutes, and gradually abates, after which, a greater degree of ease generally succeeds. In order to prevent the eye-lids from being glued together during sleep, a little spermaceti ointment, or that more delicate one, called *cold cream,* mentioned in the Appendix, may be applied between the eye-lids at night, and to procure sleep and ease, thirty drops of laudanum may be taken internally.

When ophthalmia is attended with a discharge of purulent matter, it will be useful to apply the alum curd, noticed in the Appendix, and also astringent collyriums of white vitriol, and sugar of lead, injected with a syringe every two hours, or applied by means of an eye-cup. Whenever the violence of inflammatory action has subsided, and the patient can bear a moderate degree of light, all coverings should be removed from the eyes except a shade of green or black silk. A brighter light should be gradually admitted every day into his chamber, so that he may become habituated as soon as possible to the open day light. Nothing has a greater tendency to keep up and increase the morbid irritability of the eyes, than keeping them unnecessarily long in a dark situation, or covered with compresses and bandages.

Those persons who are often afflicted with returns of ophthalmia of the chronic kind, will find extraordinary good effects from a seton in the neck, or between the shoulders, it should be placed lengthwise with the spine, instead of being put across the neck, as this soon wears out, and is both more painful and troublesome than between the shoulder blades. The scrofulous ophthalmia often proves obstinate, but may be cured by a course of cinchona with a nourishing diet.

In obstinate inflammation of the edges of the eye-lids, red nitrated quicksilver, finely levigated, and made into an ointment, with the addition of a little opium, is a very efficacious remedy, it should be carefully applied to the parts affected, with a camel-hair pencil, keeping the eyes fast shut after it.

In some obstinate cases of this complaint, considerable benefit has been received from the use of stimulating snuff, which excites sneezing and a discharge from the nose; and washing the eyes with sea water has been found useful. If ophthalmia arise from mere weakness of the vessels of the eye, it will be of advantage to bathe the eyes night and morning, either with cold water alone,

or with the addition of a little vinegar, or a sixth part brandy. This application tends to strengthen the eye, and restore the elasticity of the vessels. The watery eye may be cured by the same application, or by astringent collyriums. See Appendix.

Inflammations are sometimes followed by specks on the eye, which obstruct the sight, these may be removed by blowing into the eye, by means of a tube or quill, a little of the powder of tutty, or white vitriol mixed with an equal quantity of loaf sugar finely powdered, and daily repeated. For the same purpose, solutions of vitriolated zinc, or acetate of lead, may be frequently dropped into the eye.

The purulent ophthalmia peculiar to young children, may be cured by a weak solution of the sulphate of copper, with a little camphor carefully mixed together, and injected into the eye with a small syringe.

That dreadful malady, the Egyptian ophthalmia, is not yet numbered among the diseases of the United States, and may kind Heaven ever preserve the eyes of our citizens from being blinded by that contagious pestilence.

OTITIS, OR INFLAMMATION OF THE EAR.

The internal parts of the ear, like all other parts of the body, are subject to inflammation, and as those membranes are well furnished with nerves, they are endowed with great sensibility. When affected with inflammation, therefore, the pain is very acute and severe, attended with more or less fever, and on some occasions delirium ensues. This disease is produced by the same causes with other inflammations, but by none more readily than a partial exposure to cold, as when a current of air is driven forcibly into the ear through narrow crevices in doors and windows.

Ear-ach may continue many days without any evident signs of inflammation, and is easily cured by filling the ear with laudanum or ether, or warm oil and water. But if occasioned by a living insect having crept into the ear as sometimes happens, the smoke of tobacco or a few drops of common spirits will be the most proper remedy.

In genuine otitis, attended with considerable inflammation and severe pain, bleeding and purging may be necessary, accompanied

with a slender diet as in other inflammations, and a blister behind the ear will be useful. If the pain be violent a few drops of the tincture of opium mixed with warm oil should be introduced into the ear, and a proper dose of tincture of opium taken internally.

If the pain does not abate, but a throbbing still continues to increase, a suppuration will ensue ; and this must be promoted by the external application of warm poultices of bread and milk or flax-seed.

When the abscess has burst, the ear should be syringed with warm water and soap, or with barley water in which is dissolved a little honey, to each gill of which a table spoonful of tincture of myrrh should be added. This injection will tend to promote the discharge of matter and keep the ulcerated parts clean, and it should be continued till the ulcer is healed, though it may be protracted to several weeks. Another injection extremely well adapted in this complaint is a decoction of sophora tinctoria, this may with much confidence be recommended for trial.

ODONTITIS, OR TOOTH ACH.

The term tooth-ach applies only to a particular symptom of some disease with which the tooth is affected. It is in general a symptom of a caries of the tooth, or of such diseased state of it, as will, if not cured, terminate in *caries*. When the tooth is in this condition, it is liable to be acted upon by various irritating causes, such as the application of cold about the head, or by cold and wet feet, which repel the blood towards the head. The tooth-ach may proceed from any of the causes of inflammation, and is often owing chiefly to an acrimony in the fluids, either of a rheumatic or a scorbutic kind, when the whole side of the face will be affected.

When a tooth becomes carious, or rotten, it is not only troublesome from the severe pain which it occasions, but it frequently affects the neighbouring teeth, and unless timely checked, or removed, it may extend its influence even to the jaw bone, producing tedious caries and ulcerations. In most instances, the caries appears first upon the external surface, or enamel of the teeth, but in some, it commences in the internal surface, or bony part, and the caries spreading and corroding deeper, at length penetrates the substance of the tooth, and giving access to the external air, and other

matters, these, by irritating the nerve, excite the painful sensation of tooth ach.

Extraction of the diseased tooth is undoubtedly the only effectual method of curing the disorder, but there will be cases in which this operation will appear inadmissible, and it will often be strongly objected to by the patient. It would, indeed, be absurd to attempt this operation, when the gums and contiguous parts are greatly inflamed and tumefied; but when this is not the case, and when the tooth-ach is evidently owing to an external cause, or open caries, there is reason to believe, that the affected tooth will prove a martyr to the disease, and it ought to be extracted before it becomes so carious as to render the operation ineffectual.

In attempting to cure the tooth-ach, our first object is, to divert the flux of humours from the part affected, by the usual means of mild purgatives, and bathing the feet in warm water. The perspiration should also be promoted, by drinking freely of wine whey or other diluting liquors, and if much heat prevail, ten grains of sal nitre may be given two or three times a day. If the gums and cheeks are much inflamed and tumefied, a roasted fig should be applied to the tumour in the mouth, while poultices of linseed, or elm bark, with a little meal added, are applied externally, and these ought to be renewed until the complaint entirely ceases, or a suppuration takes place. There is, however, no application of superior efficacy to blisters, they should be large enough to extend from behind the ear over the greater part of the lower jaw of the side affected.

When the carious tooth is hollow, the pain may be removed, by introducing into the cavity some caustic substance, to destroy the sensibility of the nerve. For this purpose, a little lint or cotton, impregnated with some of the essential oils, are usually employed, as the oil of cloves, nutmeg, and savine; but the cajeput oil, when it can be procured genuine, is preferred to any other. The mineral acids, properly diluted, are also recommended. A small pill of opium and camphor, with two drops of some essential oil, or equal parts of laudanum, and tincture of myrrh, or a few drops of æther, put into the hollow of the tooth, will seldom fail of procuring temporary relief, and to prevent a return of pain, the hole ought to be stopped up with wax, or lead, so as to exclude the external air.

It is asserted by Dr. Conyer, that a teaspoonful of æther applied to the affected jaw, and covered closely with the hand, that it may

not too soon evaporate, and repeated till the pain cease, is a never failing remedy for the tooth-ach. Dr. Buchan says that a piece of sticking plaster with a bit of opium in the middle of it, laid on the temporal artery, will relieve the pain. Promoting an increased flow of saliva by means of chewing some pungent vegetables, as horse-radish, ginger, mustard, and tobacco, frequently alleviates the severity of tooth-ach.

When this complaint proceeds from a foulness of the stomach, as it often does, an emetic is the only proper remedy.

I have known the application of cotton wet with the oil of turpentine to the hollow of carious teeth, afford instantaneous and permanent relief, and in those rheumatic pains which affect the whole jaw and face, the same application may be adopted with beneficial effects.

Washing the teeth every morning with a soft brush or piece of sponge dipped in water, in which powdered charcoal prepared as directed in the appendix, has been diffused, immediately takes away the bad smell from decayed teeth, and preserves the gums. When in scorbutic habits the gums becomes soft and spongy, a mixture of tincture of Peruvian bark, two ounces, and tincture of myrrh, half an ounce, may be employed with advantage. Those who wish to preserve their teeth from decay, should avoid hot food or drink as well as those that are extremely cold.

PAROTITIS, OR MUMPS.

This is a contagious disease, affecting chiefly children and young people, and is often epidemic. It is known by an external moveable swelling that arises on one side of the neck, but more commonly on both, and frequently attains to so considerable size as greatly to impede the powers of respiration and deglutition, giving rise thereby to symptoms of fever. These tumours occupy the parotid glands; are large and hard, and somewhat painful, continuing to increase till the fourth day; when they, with the attending fever, decline and soon disappear. After these symptoms have subsided, it is remarkable, that the contents of the scrotum in males, and the breasts in females, become affected with a large, hard, and often painful swelling, which generally subsides in a few days. Some-

times, however, the tumour in the fauces is suddenly suppressed, and not attended with the last mentioned symptom; in which case the fever increases rapidly, and is often succeeded by delirium, and has sometimes proved fatal. The mumps commonly terminates without danger and seldom requires the assistance of medicine. The principal requisite is, to keep the head and feet warm, to avoid taking cold, &c. to regulate the bowels by the mildest cooling laxatives. But should the tumour in the neck suddenly vanish, and the inflammatory fever increase so as to induce an apprehension that the brain will be affected, it will be advisable to promote and reproduce the swelling, by warm fomentations, and to obviate the fatal consequence that may result from its sudden repression, by emetics, bleeding or blisters, according to the nature of the case. When the testicles, or the female breast, become affected, and are much swelled, every endeavour should be exerted to prevent suppuration from ensuing, by having recourse to bleeding, carthartics, cooling and discutient applications, such as solutions of saccharum saturni, and crude sal ammoniæ, and directing a suspensory bag for the swelled testicle.

MASTITIS.

"An enlargement of the glands of the mammæ, attended with the syptoms of phlogosis, and terminating by resolution, abscess, scirrhus, chronic ulceration or cancer." For the mode of treatment see diseases of women.

CATARRHUS, OR COLD AND COUGH.

However trivial, in the view of many persons, complaints of this description may appear, they are, in reality, to be regarded as of a serious nature, and as frequently leading to the most fatal consequences. A cold, when aggravated, or rendered extremely frequent in its return, by neglect or imprudence, eventually becomes a malady sufficiently formidable to combat and defeat the skill of the most experienced physician; and this is the rock upon which the health and lives of thousands have been wrecked.

Some interesting observations respecting the manner in which colds are contracted, will be found in the chapter on air and atmosphere, in the first part of this volume, to which the reader's particular attention is requested.

A catarrh or cold is always occasioned by a suppression of perspiration, by exposure to cold and damp air, or to alternate changes from heat to cold, and *vice versa;* and the degree of severity depends on the violence of the cause, or the constitution of the patient. If we could always enjoy a uniform degree of temperature, we should never be affected with a catarrh, but such is the variableness of our climate, that our constitutions are perpetually subjected to diseases in consequence of obstructed perspiration.

The symptoms of a catarrh, or cold, are so generally known, as scarcely to need description. They are most commonly lassitude or weariness; a sense of chilliness alternating with glows of heat upon the skin; stuffing of the nose; more or less obtuse pain of the head; frequent sneezing; a disagreeable dryness and huskiness of the nostrils; the eyes are watery, red, and sore; a cough, with hoarseness and sore throat, difficulty of breathing, and a slight degree of fever. At length a copious excretion of mucous fluid from the nostrils and throat, proves a solution of the complaint. Sometimes, however, the cough and other symptoms are more severe, and the affection being extended to the bronchial system, the breathing becomes laborious and wheezing, the fever is often considerable, and the disorder assumes its most severe forms. A cold, in general, is not difficult of cure, if early attention be given to the application of proper remedies, but if long neglected, or frequently renewed, it may prove both obstinate and dangerous.

For the removal of catarrh, we should endeavour to restore obstructed perspiration, and obviate the occurrence of inflammatory symptoms. The patient must be kept in a moderate temperature, avoiding the extremes of heat or cold. Those who adopt the old adage, of "feeding a cold," with the view of a cure, will be convinced of their error, when too late to retrieve their dangerous condition; and he who will practice upon the opinion, that colds are soonest cured by a debauch in wine, or drinking hot punch, or other heating liquors, hazards an experiment which will often disappoint his expectations, and may convert a slight complaint into some dangerous inflammatory affection.

Immediately on the approach of symptoms of catarrh, the patient ought to diminish the usual quantity of solid food, and abstain from all kinds of spirituous liquors, and other stimulating drinks. The food should consist of broths, light puddings, rice, sago, arrow root, fruits and vegetables. A free use of cooling mucilaginous drinks should be directed, such as barley water, infusions of licorice, flax-seed, quince-seeds, slippery elm bark, mullein, or water gruel sweetened with honey. The drinks should be taken cold, and pure cold water is by some late writers held in preference to all other liquids, repeated draughts of which they recommend as the best mean of promoting perspiration. By the use of these means, and bathing the feet and legs in warm water at bed time, perspiration will be induced in the course of the night, and by a due perseverance in this method, a common cold may often be speedily cured, which, if neglected, might be attended with the most pernicious consequences.

In severe cases of catarrh, when the symptoms are urgent, the most soothing and immediate relief may be obtained by inhaling into the throat and lungs the warm vapours from the infusions of emollient herbs, such as the flowers of marsh-mallows, mullein, or of elder. The receiving these vapours into the lungs by inhalation, is esteemed as a remedy which ought never to be neglected in cases of catarrh, or other pulmonic affections. The inhaler invented by Dr. Mudge, is admirably calculated for rendering the process convenient for children, as well as others. When, however, this apparatus cannot be obtained, a coffee-pot, or an inverted funnel may be substituted. The operation should be continued about twenty minutes each time, and repeated morning and evening, especial care being taken to exclude the external cold air from having access to the throat and lungs. If inflammatory symptoms prevail, with a hard quick pulse, and pain of the head and breast, and a hot dry skin, it will be necessary to take blood from the arm in proportion to the urgency of the symptoms and other circumstances of the patient, but not to such extent as to reduce the pulse and heat below the natural standard. An emetic of Ipecacuanha will next be highly useful, and the bowels must also be moved by a proper dose of jalap and calomel, or by the following saline mixture. Take of Glauber's salts, one ounce, fresh lemon juice, one ounce, boiling water, half a pint, loaf sugar, two ounces, two table-spoonfuls every hour, for an adult, until it prove laxa-

tive. If the skin be hot and dry, the warm bath should be used, after which the patient should go into a warm bed, and during the continuance of the febrile symptoms, it will be advisable to administer either the neutral mixture with a small quantity of tartarized antimony and laudanum, or the following mixture in doses of one table-spoonful every hour, with the view of diminishing the heat and promoting perspiration. Take sal nitre, half an ounce, water, half a pint, lemon juice, half an ounce. Should the fever still prevail, small doses of calomel and opium may be given morning and evening, and at bed time, 20 or 30 drops of spirits of sal ammoniac in a cup of wine whey.

For appeasing the cough, a simple domestic medicine may be prepared, by mixing lemon juice, honey, and sugar candy in equal parts, of which a table-spoonful may be taken at pleasure. In the absence of fever, two tea-spoonfuls of elixir paragoric, or a suitable dose of syrup of white poppies, should be taken at night. The syrup of marsh-mallows is very useful in cough from irritation.

Common Cough.

It must be obvious to every observer, that a long protracted obstinate cough, especially if improperly treated, too often lays the foundation for a fatal consumption of the lungs. When, therefore, a cough, produced by a cold, has not yielded to the method of treatment above recommended, or if that has not been adopted, the condition of the patient ought to excite alarm, and receive the most prompt attention.

If the cough appears to proceed from a defluxion of thin acrimonious humours irritating the membranes of the lungs and other parts, the most proper remedies are those which tend to thicken and sheathe the sharp humours, such as mucilages, oils, and gentle opiates, as the following preparation. Take of barley water, six ounces, white sugar and gum arabic, of each three drachms, incorporate the two last articles in a mortar, with a small quantity of the water, and gradually mix one ounce of the oil of almonds, or of olives, and then by little at a time, add the rest of the barley-water, and it will form a soft white emulsion, well adapted to the complaint; or if preferred, spermaceti may be used instead of the oil. Two table-spoonfuls of this excellent sheathing emulsion,

may be taken every two or three hours. Another emulsion, equally useful, may be prepared as follows. Take blanched almonds, or white poppy seeds, two ounces, beat them in a marble mortar with the same quantity of sugar, adding a small quantity of water to facilitate their mixture, and then add a quart of barley water to the ingredients, and strain the liquor through a fine cloth for use. If it is required to be more mucilaginous, one ounce of gum arabic may be dissolved in it while warm. Half a pint of this mixture, taken frequently, serves an excellent purpose in obtunding and sheathing the sharp mucus, and in diluting the acrimonious juices in the lungs, or in the first passages. These remedies must be assisted by the use of opiates, which are often requisite to appease urgent coughs, and to procure a respite from the violent action on the chest and lungs which they occasion; with this view, two or three tea-spoonfuls of the paragoric elixir, thirty drops of antimonial wine, may be given in a cup of the mucilaginous drinks or emulsions above mentioned, at bed time, and repeated as occasion may require. Purgatives are commonly necessary to keep the bowels soluble during the continuance of the cough, Glauber's salts, manna, castor oil, or cream of tartar, afford a choice for the purpose. Emetics may also be given in every stage of the complaint, with much advantage.

Should the cough continue obstinate, and be attended by symptoms of an approaching pulmonic consumption, a change of air, with proper exercise, and a milk diet, should be recommended, and promptly adopted. In the appendix to this work will be found a variety of compositions, in the form both of pills and mixtures, admirably adapted to this complaint.

When the lungs appear to be loaded with tough viscid mucus, not easily expectorated, and if no fever be present, the medicines to be relied on are those of a pectoral and attenuating kind, as gum ammoniac and squills. Half a drachm of gum ammoniac, made into pills with twenty drops of laudanum, and taken at bed time, is said to have an excellent effect, in almost uniformly producing an expectoration, and abating the distressing fatigue of the cough. If a liquid form be preferred, dissolve two drachms of the gum in half a pint of mint water, and let the patient take two table-spoonfuls three times in a day. The oxymel, or syrup of squills, may be mixed with an equal quantity of simple cinnamon water, and taken in the quantity of a table-spoonful two or three

times in a day, if they do not disagree with the stomach; or some of the preparations in the Appendix.

In obstinate coughs, occasioned by a flux of humours on the lungs, blisters are highly expedient and useful; they should be applied between the shoulders, or about the chest, and kept open a considerable time by the savin ointment; or when one has healed, a new one should be applied. If blisters are not employed, a plaster of Burgundy pitch should on no account be neglected. This ought to be worn between the shoulders, and renewed once every week so long as the cough continues, which, by its stimulating effect, will afford considerable relief to the lungs. Issues and setons, near the chest, will also be beneficial by diverting from the lungs that flux of humours, which irritates that tender organ, and excites the action of coughing. Those persons who are of a consumptive disposition, should be particularly careful to avoid taking cold, as it may bring on a spitting of blood, or if tubercles are about forming in the lungs, they may thence be excited to a speedy and fatal suppuration.

Persons advanced in life, often experience the most serious consequences from taking cold, such as inflammation of the lungs, or chronic catarrh, from which they seldom recover.

Aged persons when affected with a tedious cough unattended with inflammation, often receive essential relief by the use of balsam of Peru, balsam of Copaiva, or the balsam of sulphur, with half the quantity of the oil of aniseed mixed; a common teaspoonful of this last taken two or three times in a day, sometimes prove more efficacious than any other remedy.

It is not to be recommended that persons for every slight cold, confine themselves to close warm rooms, and drink too freely of warm liquors, as these tend to relax the system, and protract the complaint; but if no fever attend, the patient should take some exercise in the open air whenever the weather will permit.

Coughs sometimes have their origin in the stomach, affecting the lungs by sympathy, in which case the cure depends chiefly on cleansing and strengthening the organ primarily affected. After giving an emetic or two, a cure may be effected by a stomachic tincture composed of Peruvian bark and bitters, either in wine or brandy, assisted by proper exercise, particularly riding on horseback.

When a cough proceeds entirely from an affection of the nerves, the proper indications are, to strengthen the body by means of

tonics, as the Peruvian bark, thoroughwort, and preparations of iron, with a light nourishing diet, tranquillity of mind, and daily exercise on horseback.

In this complaint, however, much relief may be obtained by the occasional use of asafœtida, one drachm of which may be dissolved in two ounces of cinnamon water, and a table-spoonful taken three times in a day. But the root of pothos fœtida, or skunk cabbage, will, in most instances of this description, prove a more pleasant, as well as a more efficacious remedy. This root may be taken either in powder to the extent of half a drachm three times a day, or in the form of infusion, as most agreeable to the patient.

In children, we frequently meet with a cough occasioned by teething, and often by worms; in both which cases, it is to be cured by such remedies as are adapted to those complaints.

When women in the last months of pregnancy, are affected with a troublesome cough, the complaint is greatly mitigated by small bleedings, and keeping the bowels soluble by gentle laxatives, avoiding at the same time all food of a flatulent nature.

When the intimate connexion between the lungs and the surface of the body is considered, and that by preserving the perspiration uninterrupted, the lungs are in a manner secured from injuries which otherwise they are so apt to suffer, the utility and necessity of wearing a flannel shirt next the skin, cannot but be duly appreciated. The caution too, of guarding against wet feet, cannot be too often repeated to those who are habitually disposed to complaints of the breast. With regard to both of these particulars, I speak experimentally from the fullest conviction of their great importance.

From the particular interest which I take in the welfare of our meritorious clergymen, I am induced to observe here, that instances too frequently occur, in which they hazard their future health, and even their lives, by the great fatigue and exertion in speaking in public assemblies, while labouring under complaints of the lungs and breast.

Influenza, or Epidemical Catarrh.

This species of catarrh has been known from the days of Hippocrates, and it has been mentioned as prevailing frequently in

England during the last century. In America, it has appeared at nine or ten different periods since the year 1733, but at no period so universally extensive, and with such severity, as in the autumns of 1789 and 1807. It commenced first at New-York and Philadelphia, from which it soon pervaded every part of the continent.* According to estimation, three fourths of the inhabitants were in a few weeks affected with the disease, in a greater or less degree. It spread with such amazing rapidity, as to resemble more a storm agitating the atmosphere, than the natural progress of a disease from any contagious source; almost a whole city, town, or neighbourhood, becoming affected in a few days. Although all classes of people experienced the operation of this singular epidemic, it is remarkable that a small proportion, comparatively speaking, were so ill as to require medical attendance, and instances of its fatal termination were of rare occurrence.

The few cases of mortality were confined chiefly to the aged and those who were previously affected with pulmonic complaints. But it was not uncommon for persons from intemperance, or exposure to cold and wet, to suffer relapses, which proved severe and lingering, and in a few instances led to fatal consequences.

The symptoms which characterized the disease, were very similar to those that attend a common catarrh or cold in its severest forms. It was in general ushered in with chilliness and shiverings, succeeded by some degree of heat, a hoarseness, soreness, and rawness of the throat, lungs, and stomach, accompanied with an incessant tickling cough or hawking, with expectoration of thin sharp mucus. Pains in the head, chest, back, or limbs, with a lassitude, restlessness, and great prostration of strength, almost universally attended. The pain in the head was often severe, accompanied, in a few instances, with vertigo and slight delirium. The pain and oppression in the breast, resembled that of peripneumonia notha, and those in the back and limbs were often similar to the pains accompanying the accession of typhus fever. The respiration and cough, in some instances, exhibited that peculiar croaking noise which takes place in croup. Sometimes a diarrhœa, at others a nausea, but more frequently a constipation

* The source of this disease is a peculiar or vitiated state of the atmosphere, "the air alone being the medium of its communication, and that under all circumstances, whether pure or impure, summer or winter, and wet or dry." "It is very properly termed an *ærial or travelling infection*."—*Shecut on Contagions, &c.*

of the bowels, with thirst, a furred tongue, quick pulse, but not very full, high coloured urine, and more or less fever, accompanied the complaint. Some have the full symptoms of pulmonic inflammation, as stiches in some part of the chest, tinged expectoration, and a pertinacious cough. When perspiration was free, and the bowels lax in the early stage, the fever usually declined about the fifth or sixth day, but the cough continued for some time longer, with a free expectoration of mucus, and some old and infirm people died, apparently from an accumulation of phlegm which they were unable to expectorate. Such in general was the form of the influenza, but its modifications were extremely numerous. With respect to the medical treatment of this disease, the plan varied in the hands of different practitioners. A large proportion of those affected were subjects only of simple domestic remedies usual in cases of common colds. Blood-letting was practised in a few instances, but in general this evacuation was considered as inadmissible. Emetics, when nausea indicated their use, blisters, to relieve the pain about the chest, diaphoretics and mild laxatives, were more universally employed. The inhalation of warm vapours, the liberal use of emollient drinks, and the mucilaginous emulsions already directed, are to be considered as the most appropriate remedies in the influenza, and as all those means, with directions for their use, have been mentioned in the preceding pages, a more particular recital here would be superfluous.

I must not omit to mention that an unpleasant, and not unfrequent sequel of both catarrh and influenza, is a partial or complete loss of voice, depending upon a state of the muscles subservient to speech approaching to palsy. This is sometimes only of a very temporary nature; at others, it has been known to continue for several months after the disappearance of the other symptoms. It is in general easily to be restored by the use of stimulating gargles, composed of mustard seed and horse radish, but still more effectually by a decoction of seneka snake-root, with the addition of a little honey, a table-spoonful of which for an adult every two hours, and gargle with the same. The lobelia inflata is another efficacious medicine in this affection, which may be used as a gargle in the form of tincture or infusion. Electricity has also been known speedily to remove this complaint.

In the influenza, as prevailing this season, a troublesome sore throat has been one of the attendant symptoms, in which a decoction of the wild indigo root, (see Appendix,) proved a valuable remedy when used as a gargle. When the cough was severe, and continued for some time, the compound syrup of sanguinaria canadensis, to be found in the Appendix, greatly alleviated, and eventually proved an effectual remedy.

In those cases attended with a severe pain over the eyes and head, the application of leeches to the temples seldom failed to relieve, and was found greatly preferable to blistering.

LARYNGITIS, OR CYNANCHE LARINGÆA.

This is an inflammation of the larynx, attended with great hoarseness, a frequent convulsive cough, and difficult respiration; oftentimes ending in ulcer and hectic fever. "It is only of late," says Dr. Thomas, "that this fatal variety of sore throat has attracted the notice of practitioners, having commonly been confounded with croup. In many cases, there may, indeed, arise some difficulty of forming a just diagnosis; but the following peculiarities will greatly assist us.

"In cynanche laryngæa, the symptoms are, an uneasy sensation in the larynx, difficult and painful deglutition, partial swelling of the fauces, a supervening and perpetually increasing difficulty of breathing, nearly amounting to a sense of suffocation, the voice being extremely hoarse, or reduced to a scarcely audible whisper, attended by inflammatory fever. In cynanche trachealis, there is a difficulty of respiration, without any swelling of the fauces, or painful deglutition; the expirations, especially in coughing, are very shrill, but the fever in this is also inflammatory.

"The usual cause of cynanche laryngæa is exposure to cold, which excites an inflammatory determination to the membrane investing the larynx.

"It comes on with chilliness, succeeded by heat and fever, which are soon followed with a hoarseness and indistinctness of voice, laborious respiration and pain, or, as it were, a stricture in the throat, threatening suffocation; the pulse is quick and feeble, the eyes are suffused with blood, and somewhat protruding, the countenance has a livid or swollen appearance, the tongue is furred,

the tonsils, uvula, and pharynx, presenting a dark red appearance on inspection, and any attempt to swallow is succeeded by excruciating pain and difficulty. If the symptoms are not properly attended to, and subdued by an immediate adoption of active and proper means, the patient is destroyed by suffocation.

"The morbid appearances to be observed on dissection of those who die of cynanche laryngæa, are as follow:—The mucous membrane investing the epiglottis and margin of the glottis, is inflamed, serum is infused under it, or coagulable lymph on its external surface, by which the rima glottidis is narrowed, or actually closed. Sometimes there has been perceived an accumulation of mucus in the cells of the lungs, with a slight effusion of serum into their reticular texture. In some instances, the pleura has been found partially adhered, with more fluid in the cavities than is natural.

"To control and manage the disease with success, a timely and active employment of an appropriate treatment is obviously necessary, and this must be directed to the subduing the local inflammation as quickly as possible. In the first stage of the inflammation, (or first four and twenty or thirty hours of its commencement), when the patient feels uneasiness in the larynx, with difficult and painful deglutition, we should have recourse to copious blood-letting from the arm in a free stream, (such as from sixteen to twenty ounces, if an adult,) repeating the operation on the same day, and nearly to the amount of the same quantity, should the breathing and deglutition not be very considerably relieved. In children of an early age, it will be better to draw blood from the external jugular vein than from the arm; but in adults and other, blood-letting from the arm is to be promptly and boldly employed, repeating the operation as circumstances may require. After bleeding, some active purgative, such as the sub-muriate of mercury, joined with jalap, or the compound extract of colocynth, ought promptly to be administered; and should it not act quickly and satisfactorily, a cathartic clyster may be injected. The bleeding, as also the purgative, may be repeated the succeeding day, if judged necessary; between the doses of which, we may prescribe small and frequently repeated nauseating doses of some antimonial preparation, such as the pulvis antimonialis, or solution of the antimonium tartarizatum, which may be given in combination with a saline mixture and nitrate of potass. Antimonials are valuable medicines in cynanche laryngæa and acute bronchitis, for they not only lessen febrile ex-

citement, by exciting nausea and opening the pores of the skin, but, by their action on the exhalant vessels of the lungs, they promote expectoration, and thus lessen the inflammation of the mucous membrane.

"Should the inflammatory action in the parts not be subdued by venesection and purging, we may advise the application of several leeches to the throat, and a large blister to be put on the chest, immediately under the throat. In addition to these means, the frequent use of an inhaler, filled with warm water and vinegar, may afford some relief, as may also gargling. As an auxiliary, we may likewise recommend the semicupium.

"Now and then, suppuration takes place, and a copious discharge of matter is thrown up by a violent fit of coughing, produced by an effort at deglutition. Where suppuration exists, it might be advisable to excite vomiting, that the abscess may be ruptured, and the matter discharged by the mouth as expeditiously as possible, and thereby prevent suffocation.

"Where the disease resists our best endeavours, laryngotomy affords the only chance of escape from suffocation, by enabling the patient to breathe, till the inflammation, narrowing the aperture of the glottis, may have time to subside; but this operation should not be delayed too long, as, at a late period, it may afford but little relief; whereas, when performed in an early stage of the complaint, the benefit to be derived from it will be of high importance.

"Mr. Bell has lately endeavoured to simplify and improve the operation of laryngotomy. He recommends the incision to be made with a small scalpel, through the membranous space betwixt the thyroid and crycoid cartilages, then to introduce the handle of the knife, and turn it so as to open the slit. This will be sufficient, if the occasion be temporary; but if a more permanent gap be required, the four corners left by the incisions may be snipt off."

TRACHITIS, OR CROUP.

THERE has prevailed a great diversity of opinions among practical writers, respecting the peculiar nature and treatment of this disease. Nosologists have described it under the various appellations of *cynanche trachealis*, cynanche laryngæa, angina stridula, &c.; and in every country it has also obtained a vulgar name by

which it is generally known, as *choke*, or *stuffing;* rising of the *lights*, hives, and quinsy. This disease has been by some writers divided into two species, inflammatory and spasmodic, but there is no practical utility in such distinction, as it is probable that in the greatest number of cases, these two states are combined in a certain degree, and happily those means which are acknowledged the most effectual in counteracting inflammation, are such remedies as possess powerful antispasmodic virtues. The only distinction of species, which we shall admit as proper, is the idiopathic and the symptomatic. The disease is known by the latter appellation, when it succeeds to the malignant sore throat, scarlatina, measles, small-pox, putrid thrush, a common catarrhal affection, pneumonic inflammation, or the acute rheumatism. But it is only in its idiopathic form, that we are to consider it in this place, when the disease is primarily and exclusively local, and confined to the mucous membrane of the trachea, bronchiæ, and surface of the lungs.

It often commences suddenly, without any premonitory symptoms; or the previous indisposition is so short and inconsiderable, as scarcely to attract observation. Under whatever circumstances it may occur, it is an inflammatory affection of the mucous membrane of the trachea and larynx, often extending throughout the whole of the windpipe, and a considerable part of the surface of the lungs, producing a lymphatic incrustation,* which is sometimes vomited or coughed up in detached portions.

Whether the attack be sudden or more gradual, it is accompanied with the common febrile symptoms, which, in infants incapable of communicating their feelings, may be discovered by the heat of the skin, thirst, reslessness, and nausea. In many cases, for several days previous to its invasion, the child will appear drowsy and inactive, the eyes watery, inflamed, and heavy, the pulse frequent, the breathing shorter and quicker than natural, and attended with a hissing noise. This peculiarity in the sound of the respiration is more observable when the child first awakes, at which time it will be seized with an unusual hoarse, shrill, dry cough.

The disease is frequently epidemic, but never, as has been supposed by many physicians, contagious. It most commonly occurs

---

* Dr. J. Jackson, of Boston, has communicated several cases of dissection, in which "the peculiar sound of Croup was exceedingly evident," where this preternatural membrane of coagulable lymph was not present in the larynx. See New-England Journal of Med., &c. Vol. I. p. 383.

during the variable weather of autumn and spring, but more rarely in the severe cold of winter, or the mild and genial warmth of summer. But solitary cases have been witnessed in every season, if at the time there prevailed much dampness, with an atmosphere alternately warm and cold. From these facts it may be inferred, that the application of cold is the general cause which produces the disease. It has likewise been observed to be peculiar to certain families;—that children under six months are not so liable to this complaint, as they are after that period to the age of eight or ten years;—that it most frequently seizes the ruddy and robust;—and that those who have once suffered an attack, are peculiarly liable to repeated returns of the disease. Adult persons are not altogether exempt from an attack of the croup; several instances are on record, besides that memorable one which deprived our country and the world of the illustrious Washington. In his case, the disease was the effect of a cold, by getting wet about the neck. Dr. Mitchell, the learned professor of natural history in the university of New-York, has also been the subject of a very alarming attack of this disease.

The duration of a fit of croup is various; in a few instances it proves fatal within twenty-four or thirty hours after the attack; in other cases its fatal termination has been prolonged to a week. The unfavourable symptoms are, violent fever, a permanent dyspnœa, great anxiety, frequent cough, without expectoration, and the voice becoming more shrill and sonorous. When it proves fatal, it is generally by suffocation, induced either by a spasm of the muscles of the glottis, interrupting the passage of the air, or a preternatural membrane, obstructing the windpipe. Notwithstanding it is an inflammatory affection, it very seldom ends in suppuration or gangrene.

Practical authors have differed widely in their opinions with regard to the mode of treatment which is to be pursued in the cure of the croup. Some physicians have relied entirely upon antispasmodic medicines; while others have rejected them as useless, and have given calomel in doses almost incredible to be believed.* A few practitoners have had recourse to blood-letting, which they ad-

* Dr. Stearns, of Albany, prescribed to a child of a year old, 20 grs. of calomel, with 8 grs. of the cerated glass of antimony; and to a child of two years of age, he gave 25 or 30 grs. of calomel for a dose, with a proportionate increase of antimony. See Coxe's Med. Museum, Vol. V. p. 195.

vise to be carried to that degree of profuseness, which will produce deliquium. This practice has been opposed by those who dread the debilitating effects which succeed to bleeding children freely. Venesection, emetics, and the warm bath, have been employed by English physicians in the first attack of this disease, with a view to obviate the inflammation, and they recommend the use of antispasmodics during the remainder of the cure. Without attempting to refute, or to reconcile these discordant opinions, we shall divide the disorder into three stages, agreeably to the plan of Dr. D. Hosack, of New-York,* and propose such remedies as are best adapted to each of them. The first may be denominated the *forming stage*, in which is manifest the premonitory symptoms above described, when the affection is merely local. Perhaps the only marks of indisposition at this time will be, a difficulty breathing, which is generally attended with a wheezing noise; a peculiar hoarse, hollow, shrill, cough; and a slight degree of restlessness. Children have frequently been relieved in this stage by the exhibition of common family prescriptions. But more generally the disease is only momentarily arrested in its progress by these nostrums, and much valuable time is lost. We are not to infer that there is no hazard, because we find the skin cool and moist, the pulse not accelerated, and the system unaffected. Even in this stage, the disease requires the most active remedies, to prevent the irritation being extended to the system generally, and to restore the suppressed secretions of the trachea and surface of the lungs. This is the only situation, while the disease is confined to the parts primarily affected, that the physician can prescribe with confidence or success.

To effectuate the most important object in the cure, the turpeth mineral alone, or calomel and antimony combined, constitute by far the most efficacious remedy ever devised. The precise dose must be determined by trial, and attentive observation as to the effect. Of calomel, two parts, tartarized or cerated antimony, one part, a child under two years, may take ten or twelve grains at

---

Dr. Burns assures us that 50 or 60 grs. of calomel are often given, and occasionally above 100, to children in this disease, without producing salivation. Vide Prin. Mid.

* Vide Observations on Croup, or Hives; addressed in a letter to A. R. Delile, M. D., of Paris; by David Hosack, M. D. Professor of the Theory and Practice of Physic and Clinical Medicine, in the University of the State of New-York, first published in the Amer. Med. and Philo. Register, Vol. II. No. 1.

first, and a smaller dose every half hour, until a severe vomiting is induced, and the alarming symptoms have subsided. The purgative effect of the medicine may, if necessary, be assisted by an injection. Dr. J. Fisher relies chiefly, if not entirely, on the turpeth mineral as an emetic in croup. He administers one or two grains, according to the age of the child, and repeats, if necessary; which method, this excellent physician assures me, has succeeded in every instance of his extensive practice.

In the second, or *febrile stage*, the irritation is extended to the whole system; the pulse is frequent, the skin hot, and dry, the respiration difficult, hurried, and stredulous, the cough frequent, shrill, and of a very particular sound, the face flushed and swelled, and the eyes protuberant, and sometimes watery, attended with great thirst and restlessness. In this stage of the disease, it is necessary to lessen the general febrile excitement of the system, and prevent the determination of the circulating fluids to the affected part, by employing blood-letting, either at the arm, or jugular vein, in proportion to the age and constitutional powers of the child. Dr. Hosack, never, even in the youngest children, experienced any difficulty in opening a vein upon the back of the hand, and of drawing a sufficient quantity of blood from that part which he prefers to the jugular vein, first immersing the hand in warm water. He takes from a child under two years, from two to four ounces; from two to six years, from four to six or eight ounces, and to be repeated as the urgency of the symptoms may require. The practice recommended by some physicians, of bleeding the patient until faintness be induced, Dr. Hosack believes to be improper. After the use of the lancet, it will be advisable to administer the antimonial or the mercurial emetic, notwithstanding the bleeding should appear to have produced an entire relief. But should not the disease yield to these means, a blister must be applied to the throat, and a carthartic of calomel given, whose operation should be assisted by injections. Should we not succeed in subduing the febrile symptoms, and diverting the irritation from the lungs and trachea, the third stage of the disease will ensue, which is denominated the *membranous* or *purulent stage*.

In this third stage, in which the membranous effusion occurs, lining the trachea and bronchia, we observe the same laborious respiration as in the preceding stages, the cough violent, and unattended with any expectoration; but if any thing is spit up, it has

either a purulent appearance, or consists of films resembling portions of a membrane. The countenance is of a bluish livid colour, the face and lips tumid, and the patient is threatened with immediate suffocation. In this advanced period of the croup, we must have recourse to stimulant remedies, neither of which, excepting calomel, would be proper in the two first stages. Here, we ought to exhibit repeated doses of calomel, together with squills, and asafœtida, and the seneka snake-root. This last medicine must be given in the form of infusion, of such strength, as to act sensibly on the mouth and throat, in exciting coughing, &c., as in this disease, those parts in a manner, lose their natural sensibility. Half an ounce of the bruised root, simmered in a close vessel, in half a pint of water, until reduced to four ounces, will, probably, in most cases, be sufficiently strong. A tea-spoonful of this is to be given every hour, or half hour, so as to keep up a sensible action of the medicine in the mouth and throat, until it act as an emetic or cathartic, or the patient is otherwise relieved, and then continued in smaller doses. We are indebted to Dr. Archer, of Maryland, for the introduction of Polygala Seneka, as a remedy in croup, and the experience of many years has confirmed its utility. The powder of seneka, Dr. A. observes, has been used in doses of four or five grains mixed in a little water, with effects equally pleasing with the decoction. The syrup of onions is frequently administered in the last stage of croup, with beneficial effects, but Dr. Hosack urges the importance of varying the remedies according to the different stages of the disease. Such powerful stimulants as syrup of onions and seneka, cannot be given with safety in the forming, or in the febrile stage, when blood-letting and other means of reducing the increased excitement of the system are indicated: and the relaxing and debilitating remedies which were indicated during the two first stages, ought in this to be prohibited; for, in this debilitated state of the system, they not only diminish the power of secretion, but of ejecting the matter secreted. Cases have occurred when in the last stage of croup, emetics of sulphate of copper, or sulphate of zinc, have been found preferable to other emetics. Professor Francis, of New-York, has, in three apparently desperate cases, succeeded beyond expectation, by administering a solution of white vitriol composed of a drachm of the zinc to an ounce of water; three tea-spoonfuls were given at intervals of ten minutes. In twenty minutes after the last dose was taken, the

effects of vomiting were renewed, and the patient completely relieved. In this, as in the other two cases, bleeding, vomiting, calomel, the antimonial solution, and the warm bath had been employed. As the last resource, Dr. Hosack recommends the operation of Tracheotomy as the only means of preserving life.*

Professor Smith, of New Haven, has had many opportunities of witnessing the beneficial effects of blood-root in diseases of the lungs, and in croup, in which last disease, he deems it a sovereign remedy. The case of a woman labouring under croup, was so violent, that the professor found the attending physician prepared for the operation of opening the trachea. He gave a strong infusion of blood-root, in table-spoonful doses, repeated once in 20 minutes, and in two hours, the disease was cured so far, that she breathed with perfect ease. He has witnessed the effects in several cases where it was equally and as speedily beneficial. Professor Ives, of New Haven, also states, that if given in large doses, sufficient to produce full vomiting, it often removes the croup, if given in the first stage. It has been given, he remarks, for many years, in the country, some physicians relying wholly on this remedy for the cure of croup. If given early in cynanche trachealis, says Dr. W. Tully, it may be considered as almost a specific. About one scruple of the powdered root may be infused in half a gill of hot water, and to a child two years old, a small tea-spoonful may be given every half hour, in urgent cases, until relief is obtained. It appears from an extract from the Edin. Med. Journal, April 1825, in the New England Med. Journal, vol. 14, that W. Mackenzie, Professor of Anatomy and Surgery at Glasgow, has discovered a fact, which appears to be of much importance. That in croup, the exhudation of *fibrin*, very frequently commences on the surface of the *tonsils*, thence spreads along the arches of the palate, and the uvula, and at length covers the internal surface of the pharynx and œsophagus, the larynx and trachea. The remedy which this gentlemen has found effectual, even in severe cases, is a solution of *nitrate of silver ; one scruple* of the nitrate is dissolved in an ounce of distilled water. By means of

* The operation of opening the trachea for the removal of foreign bodies accidentally received in that tube, has been several times successfuly performed in the United States ; in Pennsylvania, by Dr. Charles Mc Lane, in Hartford, Connecticut, by Dr. Cogswell, and by Dr. Mott, the Professor of Surgery in the university of New York.

a large camel hair pencil, this solution is to be applied freely, once or twice a day, according to the severity of the symptoms, to the whole lining membranes of the fauces. The surface of the tonsils, or wherever else the fibrinous crust is actually in view, will of course be particularly attended to; the pencil may with safety be pushed to the lower part of the pharynx. This application produces no irritation, and uniformly alleviates the distressing symptoms of croup, by throwing off the false membrane by which the parts are covered.

PERIPNEUMONIA NOTHA, OR TYPHOID PNEUMONIA.

The epidemic now to be considered has a strong affinity to that described in the preceding pages. Both are probably dependent on the same predisponent and exciting causes, and equally destitute of the contagious character. Confederate accomplices in the great work of mortality, they are no less humbling to the pride of medical science, than fatal scourges to the human race. In 1812—13, this formidable epidemic prevailed among the soldiers of our army on the frontiers of Canada, and extended to the inhabitants in those vicinities, with the most alarming mortality. It has since continued to display the arrows of death, and to spread consternation and dismay through various sections of the United States. Its greatest prevalence has been during the cold weather of winter and spring, and generally remote from the seaboard. According to its supposed existent forms, it has received the different appellations of peripneumonia notha, pneumonia typhoides, bilious pneumonia, and malignant pleurisy.*

The analogy between this epidemic and spotted fever, seems to be evinced by the violence and suddenness of attack, variety of forms, sudden prostration of the vital principle, and rapid progress to a fatal termination; and on some occasions by the appearance of both at the same epidemical season. The analogy of the two diseases is also manifest by nearly the same appearances on dissection, and that on general principles they require a similar mode of

* The vulgar term "cold plague" or "cold skin fever," given it in the southern states, is not inaptly applied, considering the remarkable coldness of the surface and extremities, and also its dreadful fatality in some particular places and seasons.

curative treatment. The two diseases, however, are not to be confounded either in theory or practice, In the petechial fever, the principal morbid affection discovered on dissection was on the parts within the cranium; in the present disease it is generally found in some of the thoracic viscera, as the heart and lungs with their membranes; yet in some instances, all those different parts participated in a greater or less degree in the diseased affection. The peripneumonia notha is far from being a new disease, we find it mentioned by the great Sydenham about the year 1680, under the denomination of bastard peripneumony, which he says "arises every year towards the beginning, but more frequently at the close of winter. It chiefly attacks such as are of a gross habit of body, and middle aged persons, but oftener those who are more advanced in years and too much addicted to spirituous liquors, especially brandy."

The very accurate description given of peripneumonia notha, by that excellent practical author, Dr. John Huxham, in the year 1759, so exactly corresponds with the epidemic which has recently visited our country, that no one can doubt of their real identity. I shall give a concise abstract of his description. "Though the load at the breast is very great, breathing difficult, and the cough very importunate and sometimes violent, yet the fever and heat are small, many times scarce perceptible, the pulse either quick, weak, and small, or sluggish and oppressed, never hard and tense. So that as this distemper hath very different, and almost quite contrary symptoms to those of a true peripneumony in several respects, it is reasonable to suppose it arises from very different causes, and requires a very different method of cure.—And in fact we see, that bastard peripneumonies commonly seize the old and phlegmatic, the weak and lax, the fat and unwieldy, and are most rife in wet, foggy weather and winter seasons; whereas the true inflammatory peripneumony generally attacks the robust, vigorous, and active, and is most frequent in cold, dry weather, during north-east winds and high stations of the barometer.—These two diseases, then, seem to differ almost as much as ardent and slow nervous fevers; or as much as an inflammatory quinsy doth from one that is purely humoral, or arising merely from a serious defluction. The frequent chills and flushes of heat, however, the quickness and irregularity of the pulse, anxiety and weight at breast, pain and giddiness of the head, foulness of the tongue, &c. sufficiently indicate a fe-

verish habit." "A perpetual laborious wheezing, great anxiety and constant oppression on the præcordia, comatose symptoms, cold extremities, and dark lead coloured nails and visage, are marks of great and immediate danger."

The following observations to be found in Mr. J. Bell's Anatomy will further confirm the close resemblance of this epidemic with the European disease. "In peripneumonia notha, there is not merely an inflammation of the pleura, as the name expresses, but of the lungs themselves; and it is not from inflammation, pain, fever, or acute suffering, that they die, but because the lungs are entirely crammed; the heart can no longer move; they are not sensible of their dangerous state, but are suffocated in a moment, and die without a groan."

"When this disease comes upon a place, it comes with all the frequency and destruction of an epidemic disease; and the sudden and unexpected deaths are terrible."

"The pulse is weak; the cough slight; the difficulty of breathing more anxious than painful; the face sunk in the features, and flushed, or rather of a livid colour, except when it is cadaverous, pale, and sallow. The suffocation is sudden; the lungs have, as Morgagni expresses it, a liver-like, solid consistence; they have no longer the cellular appearance of lungs, for their bronchiæ are crammed with blood; their common cellular texture is also full of exuded blood; they are dense, solid, and very heavy and black, and they sink in water like the lungs of a fœtus. The heart is so curbed in its actions, that it gives but a small, feeble, and trembling pulse," &c.

It may be deemed somewhat singular, that having the characteristics so accurately portrayed by the first European authorities, we should not be prepared to recognize the disease immediately on its appearance in our country. The shades of dissimilarity, may, it is presumed, be explained by referring to the difference in climate, and the constitutions and habits of the people. The disease has in general commenced with acute pain in the side or breast, stricture across the thorax, and difficulty of breathing, short distressing cough, sometimes attended with a mucous expectoration tinged with blood; numbness in the muscles, excruciating pains in the limbs and about the region of the heart, chills and great prostration of strength, together with palpitation, irregularity, depression,

and annihilation of the pulse, syncope and cold sweats; but in a few cases, the pulse was very rapid and not depressed.

In some instances the patient was seized with a violent pain in the head, soon became delirious and died in a few hours, (see spotted, or petechial fever.)

This most violent and fatal malady is to be combated with promptitude and decision, little time is afforded for deliberation. Remedies should be applied within the first few hours of attack. As Dr. Huxham observes, "the timid, low, insipid practice of some is almost as dangerous, as the bold unwarranted empiricism of others; time and opportunity, never to be regained, are often lost by the former; whilst the latter, by a *bold push*, sends you off the stage in a moment."

The remarkable mutability of the disease, and the discordance of opinion among practitioners, bring the fullest conviction that no precise or uniform rules can be adopted, all must be regulated by the particular state and condition of the patient. Relative to a few points, however, there exists no contention among judicious practitioners. Blood-letting is not to be resorted to indiscriminately, and the stimulant plan by the use of ardent spirits has in general been denounced as highly injurious, while some individuals having experienced their salutary effects, extol the remedy as being singularly efficacious, even when exhibited to such extent as in a state of health would appear a dangerous experiment, and it is sometimes found difficult to control the popular bias in favour of their administration. But let it be observed as a general position, that the intended effects of ardent spirits and other cordials, are to warm the stomach, and to increase the force and frequency of the heart and large vessels, when these are almost arrested in consequence of pressure on the brain; but by the liberal and indiscriminate exhibition of such stimulants, while those organs are in a gorged state, there is much hazard of so increasing the local congestion of blood, as to lessen the power of the vessels to contract, and to produce sudden death. Ardent spirits seldom fail also of interrupting the natural evacuation from the lungs by expectoration. That excellent physician, Dr. Huxham, was an advocate for bleeding at the commencement of peripneumonia notha, provided great load and oppression at the breast with difficult breathing, full, or tense and hard pulse, and other urgent symptoms, indicated the necessity of it; but in contrary circumstances he advises to proceed with great

caution; and when the blood drawn appears loose, thin, and florid, or more commonly of a darkish livid hue, and without that thick viscid buff as in common inflammations of the lungs, a repetition of the operation is inadmissable, as the patient soon sinks, and the powers of life fail in consequence of the evacuation. But the fact is to be remarked, that in this, as in all other epidemics, no invariable rules can apply to particular seasons, constitutions and other individual circumstances; very much must depend on the vigilant attention and happy discernment of the attending physician. During the epidemic, the present year, (1816,) in this state, blood-letting had in general a remarkable tendency to a fatal termination, inasmuch that it became an established opinion among the most judicious, that in not more than one in ten instances could the lancet be employed with safety. Local blood-letting by leeches or cupping, may often prove beneficial, when the general evacuation is to be avoided. Cases may, and have undoubtedly occurred, however, where the lungs are so gorged with blood, that the heart and arteries are dangerously impeded in the performance of their action, while at the extremities and surface of the body, torpidity and coldness prevail. This condition of the patient is often accompanied also with most laborious and suffocating respiration, arising from the bronchiæ being loaded with bloody mucus. Here the stimulus of ardent spirits internally must be carefully avoided, but the most effectual means of external warmth should be immediately and assiduously employed. It is in these circumstances that the use of the lancet is not to be guided by the state of the pulse; although a full evacuation may be improper, small bleedings of four or six ounces, and repeated every six or eight hours, attentively watching the effect, will afford opportunity for the gorged vessels to relieve themselves from the oppressive load, and may be the means of permanent advantage. And when a general warmth and uniformity of action, and excitement are restored to the surface and extremities, a more copious evacuation may in some instances be requisite; or the appropriate auxiliary remedies may now be diligently applied with the fairest prospect of success. One of the most effectual applications is a large poultice of onions, either raw or roasted, and sprinkled with vinegar, and so large as to cover the whole region of the lungs. A very extensive application of epispastics to the parts most affected, as advised in spotted fever, should be regarded as among the principal remedies to be relied on; these, when

applied to the legs and thighs, says Dr. Huxham, are often found to relieve the head and breast when other methods fail. But the limbs when cold and torpid, should be well rubbed before the blisters are applied, and then wrapped in flannel, and other stimulants and rubefacients should also be applied as recommended in spotted fever. Our attention should next be directed to the morbid contents of the stomach, and to induce a discharge from the lungs by expectoration. For this purpose an emetic of ipecacuanha, with three or four grains of turpeth mineral, should be administered. Experience has decidedly evinced the importance of inducing a mercurial action to counteract the diseased action existing in the system, in which event a fatal termination rarely occurs. Mercurials in general are excellently adapted to promote expectoration, and turpeth mineral is, it is believed, the preparation to be preferred. This, if given in doses of two grains every fourth or sixth hour, may supersede the use of the lancet, produce the desired copious expectoration, and effect all that can be attained by any medicine. When this preparation is not employed, recourse will undoubtedly be had to calomel, either by itself or conjoined with tartarized antimony, and opium will be occasionally added, as in the following form. R. Calomel gr. ten, opium, gr. five, tartrite antimony gr. one, m. two or three grains every four, six, or eight hours. An early introduction of mercury into the system is with few exceptions considered by experienced physicians as the most efficacious method of combating this formidable disease. Antimonial preparations are also of great utility, and Dr. Huxham extols the antimonial wine as an admirable attenuant, deobstruent, and diaphoretic, safe and efficacious, and in this disease great advantage has been derived from it, when combined with elixir paragoric, in appeasing cough, and promoting expectoration. Other pectoral medicines, as gum ammoniacum, squills, decoction of figs, liquorice, and elecampane, are usually employed, and will afford essential relief. As a free and regular perspiration is of the first importance in the curative plan, much of our attention should be directed to the class of diaphoretic medicines, among the most useful of which are Dover's powder, alkaline salts and camphor; and in cases of low state of circulation with torpor and cold extremities, where stimulants are required to invigorate the stomach and system, the indications may be advantageously fulfilled by the use of volatile tincture of gum guaiacum, volatile tincture of valerian, decoction of thoroughwort,

infusion of Virginian snake-root, saffron, and vinegar or mustard whey. But the seneka-root is probably one of the best diaphoretics which can be employed. It is mentioned by Dr. Gallup, in terms of high commendation in his sketches of epidemic diseases, having experienced its superior virtues in his own case and many others. The proper dose is about six grains of the powder every three hours until the desired effect be accomplished. The course above detailed should be accompanied with some or all the means of communicating external heat, as the warm bath, or enclosing the patient in blankets wet with warm water, billets of wood after being boiled, bladders filled with warm water, &c. The method discovered by Dr. Jennings, of imparting dry warmth, by means of a spirituous vapour bath, is said to be preferable to all others, for the purpose of removing torpor of the surface, and equalizing the excitement. When the lungs are much oppressed with mucus and phlegm, with little expectoration, the inhalation of steam from hot vinegar and water, if properly employed, will produce beneficial effects; and this may be considerably assisted by repeated potations of pure bottled cider a little warmed. In those cases which require internal stimulants to revive the exhausted energy of the system, a mixture of equal parts of ether and laudanum, will be found happily adapted to the indication, the quantity to be administered will depend on existing circumstances. The aqua ammoniæ, or volatile alkali, may sometimes be advantageously exhibited alternately with the above mixture. Cathartics of calomel and jalap, at the beginning, and afterwards appropriate laxatives to keep the intestines free of all irritating substances during the course of this disease, comprise an indispensable part of the curative plan. Opium will sometimes be resorted to by the experienced physician with the view of assuaging the severity of distress, and abating irritation, or with the hope of mitigating the tortures of despair.

The food and drinks should consist of nutritive properties, and the patient may indulge more freely than in other fevers in the use of animal broths, soups, and jellies; increasing in more substantial articles in a state of convalescence. In that sinking condition of the disease, when great debility occurs, and the vital powers are at a low ebb, the patient will require a free use of mustard whey, warm wine, and suitable doses of cinchona and brandy, together with friction, and external warmth. See the mode of treatment of spotted or petechial fever. But let it be constantly recol-

lected that the features of these two epidemics, however close their affinity in some instances, are often so infinitely modified, that no delineation can apply to all their varieties. Hence it will be found, that the most discriminating and experienced practitioner, having established a judicious system in one season or situation, will be reduced to the alternative on other occasions, either of varying his mode of treatment, or suffering himself to be foiled and baffled in all his efforts to afford relief.

The following observations on *Peripneumonia Typhodes* is copied from the appendix to Dr. Thomas's Modern Practice, by Professor Hosack.

This diseaseis not a "new calamity," an "unknown epidemic," as it has been represented by some writers: on the contrary, it has been well described by Sauvages*, Huxham, and others: by the former, under the very appropriate appellation of "*Peripneumonia typhodes.*" Nor is this a new disease in the United States: in the first volume of the medical and Philosophical Register, the late Dr. John Bard of this city, has given an account of a disorder which prevailed on Long Island, in the winter of 1749, and which, in its essential symptoms, corresponds with the epidemic lately prevalent in this state. Dr. Bard has termed the complaint the "*Malignant pleurisy.*"

In the second volume of the Medical Repository (first series), the same disease is noticed by Dr. Hugh Williamson, as it prevailed in North Carolina, in the year 1792. In the southern states, it is commonly called, "*Pleurisy in the Head,*" in consequence of the violent pain in the head, which frequently attends the disease in that climate.

Malignant Pleurisy, or rather *Typhus Peripneumony* well expresses the mixed character of this disease; for at the same time that it is attended with inflammation of the lungs, and in some instances with inflammation of the brain, the general affection of the whole system is certainly that of *typhus fever.*

That inflammation of the lungs frequently constitutes a part of the disease, is manifest, not only from the presence of those symptoms usually attendant upon pneumonic inflammation, viz. cough, pain in the chest, especially upon taking a full inspiration, expec-

* See his Nosologia Methodica, vol. I. For other synonyms, see also Cullen's Nosology, under the head of "Peripneumoniæ idiopathicæ complicatæ febre," vol. II, p. 101.

toration tinged with blood, in the early stage of the complaint; but it is also evident from the phenomena presented upon an examination of the body after death: the overloaded state of the lungs, the large effusion of serum, and sometimes purulent matter, the adhesions found between the membranes covering the lungs, and those lining the chest, all clearly show, that the patient has been destroyed by such inflammation.* In like manner, in some cases, the whole force of the disease is vented upon the brain, producing similar phenomena in that organ. On the other hand, the usual symptoms of a putrescent state of body, the petechiæ, blotches, hæmorrhages, in the latter stage of the disease, the offensive state of the excretions in general, and great prostration of the powers of life, which rapidly ensues, no less declare the enfeebled and vitiated state of the whole habit. *There are, therefore,* two opposite conditions of body to contend with; *local inflammation* on the one hand, a *typhus state of the whole system,* on the other.

The causes of the disease are no less compounded, than the disease itself. The local inflammatory affections are probably occasioned by the *sensible* changes of the atmosphere, while the typhoid character of the disease is derived from an *epidemic constitution of the air,* the same which has given rise to the *typhus petechialis, or spotted fever,* which has prevailed for some time past in our northern and eastern states, and which is doubtless *a similar disease,* with the exception, that the present epidemic is complicated with the symptoms of local inflammation of the chest, brain, throat, &c., the effect of the present cold season of the year. With this view of the *mixed* nature of the disease, and of the combined causes which have produced it, we are prepared to expect the various and opposite opinions, and modes of practice, which have been adopted by different physicians. We accordingly find some prescribing the strict antiphlogistic treatment by large and repeated blood-letting, active cathartics, and other depleting remedies, treating the disease, as purely inflammatory.

On the other hand, we find another class of practitioners, pursuing the opposite course of exciting the system by the most powerful and diffusible stimuli, to counteract the putrescent state of body; alleging, that it is exclusively a putrid disease, and only to be controled by antiseptics and the avoidance of all those

* See Report of the Mass. Med. Society, and Dr. Hudson's letter on the prevailing epidemic.

means which are calculated to debilitate the system. As far as I have seen the disease, they are both wrong: the indiscriminate use of the lancet, recommended by some, is, in my opinion, an additional source of the mortality of the disease. On the other hand, the practice of administering brandy, and other ardent spirits in the quantity they have been lately prescribed, is truly adding fire to the flame that is already consuming the patient, and cannot be justi fied either by principle or practice. But the prudent physician will avoid both these extremes: In the young and athletic, he will prevent the brain from being inundated with blood, by the early and judicious use of the lancet, blisters, and other means usually prescribed for diminishing inflammation; keeping in view the age, strength, constitution of his patient, and the general symptoms indicating a putrescent state of the system. On the contrary, in feeble old age, in the habit debilitated by disease, or intemperance, in which those inflammatory symptoms are less violent, and the tendency to putrefaction is most predominant, he will depend chiefly on those means usually resorted to for the purpose of promoting the perspiration and other excretions, at the same time, that, by suitable antiseptic drinks and nourishment, he will guard against that debility which so rapidly ensues in this condition of the system He will in such cases, of course, carefully abstain from the use of blood-letting and other depleting remedies. But he will certainly not effect the first purpose by the excessive use of brandy, and ardent spirits. So far from promoting the excretions of the system, they actually restrain those very evacuations which it should be our object to promote, and by which alone we are enabled to counteract the typhoid state ofbody in this or any other febrile disease.

As a substitute, therefore, for this stimulant mode of treatment in those cases where this typhoid tendency prevails, we are forbidden the use of the lancet, and other depleting remedies, or where the symptoms of local inflammation are so mild that they are not indicated, let me recommend, after emptying the bowels by an enema, or *mild* purgative, to make free use of the *warm bath*, *fomentations* of vinegar and water to the extremeties, the liberal use of the infusion of *snake-root*, the *eupatorium*, and wine whey, in very debilitated habits, or where the powers of life are much reduced, in order thereby to procure a plentiful perspiration. By this evacuation, we not only counteract the general vitiated state of the fluids,

but we at the same time diminish, and in some cases, totally remove, the local irritation which affects the lungs, or other organs, involved in the disease.

For further information on the subject of the pneumonia typhodes, see the luminous Report of the Massachusetts Med. Society, an abstract of which may be found in the American Medical and Philosophical Register, Vol. I.; Dr. Low's account of the epidemic in Vol. IV. of the same work, and the report of the Saratoga County Medical Society.

PERTUSSIS, OR HOOPING COUGH.

This is a convulsive cough, attended with a peculiar, sonorous, spasmodic inspiration, or hooping, from whence it has derived its name. It generally commences like a common cold, with slight febrile symptoms, a hoarse cough, and difficult expectoration, which sometimes last many weeks before the disease appears to be actually formed, or the hooping comes on. It depends on a specific contagion, which can affect children but once in their life. The immediate cause appears to be a viscid phlegm lodged upon the bronchiæ, trachea, and fauces, which adheres so firmly as to be expectorated with great difficulty. The cough generally comes on very abruptly, and the paroxysm consists of a number of short expirations, in quick succession, which are followed by a full, violent, and noisy inspiration, the coughing is again renewed, and continues in the same manner until a quantity of phlegm is coughed up or vomited, alone, or with the contents of the stomach, and this terminates the paroxysm. During the fits, the extremities become cold, the face turgid and purple, and the whole frame very much agitated. The forehead is covered with sweat, and in severe cases blood gushes from the nose or other parts.

Hooping cough often proves tedious, and is very dangerous for very young infants. It has been known to terminate in apoplexy, suffocation, peripneumony, anasarea, and convulsions; and in the predisposed, it lays the foundation for asthma, scrofula, and pulmonary consumption. In many instances, hooping cough appears to affect the patient in so mild a form, that a few domestic remedies, and avoiding exposure to cold, will suffice to obviate any se-

rious consequences, but when in the first stage inflammatory or febrile action are considerable, our first step should be to deplete the vessels, by abstracting a suitable quantity of blood from the system, say from four to six ounces from a child under two years old; and so important should this evacuation be considered, that the physician may, on many occasions, feel justified in repeating the operation. Should general bleeding in any case appear inadmissible, a sufficient number of leeches ought to be applied to the neck or chest, and the antiphlogistic course should be freely adopted. For the relief of the cough, nothing is so beneficial as emetics, and they ought never to be neglected. At the commencement of the disease, the emetic should be given every morning, or every other morning, according to circumstances, and occasionally repeated during the whole course of the disease, in order to disburden the lungs and bronchial vessels of the viscid phlegm with which they are constantly oppressed. The wine of ipecacuanha, either alone or with the addition of syrup of squills, will be found to answer the purpose. The tincture of lobelia inflata is well adapted to the same purpose, it excites a speedy vomiting, without that straining and violent effort which tend to weary and debilitate the patient. In smaller doses, the same tincture promotes the expectoration, and relieves the breathing, independent of the operation of vomiting. If there is much difficulty of breathing, the application of a blister to the chest will be highly proper. The stomach, thorax, or spine, should be frequently rubbed with stimulating substances, such as a combination of camphor and oil of turpentine or oil of amber, and juice of garlic, or the following embrocation:—one scruple of emetic tartar, half an ounce of tincture of cantharides, mixed with two ounces of water; after the application, cover the part with flannel. Similar applications, or a poultice of garlic, to the soles of the feet, and bathing them frequently in warm water, are too useful to be omitted. A large plaster of Burgundy pitch, with the addition of oil of amber, should be worn constantly between the shoulders. The Hyosciamus, in the following form, has been found extremely beneficial in the hands of an experienced physician. Dissolve ten grains of extract of Hyosciamus in one ounce of vini antimony—dose from twelve to twenty drops for a child two years old, two or three times in a day. The *Prussic acid*, when skilfully and cautiously administered, allays the spasmodic violence of the cough, and affords es-

sential relief, but it must not be entrusted to unprofessional persons, or inexperienced practitioners. Let it be remembered, that some preparations of this active medicine are stronger than others, and that it should be given in small doses at first, and its effects carefully observed, before it will be safe to increase the dose, but never to exceed from four to six drops in twenty-four hours.

Professor Ives, of New-Haven, thinks highly of the efficacy of blood-root in hooping cough, and Dr. William Tully, of Connecticut, coincides in the same opinion, and adds, if vigorously administered and faithfully persevered in, it is one of the best remedies. It should be combined with opium. The form most proper for children, is equal parts of camphorated tincture of opium and wine of sanguinaria, made in the proportion of one ounce of the bruised root to half a pound of wine. This mixture, beginning with about fifteen drops for a child two years old, may be increased to twenty-five or thirty, three times in a day, according to its effect. The preparation of hyosciamus must not be given at the same time.

During the progress of the disease, some children become very weak, are much emaciated, and are threatened with hectic; in such cases, nothing will contribute so much to their restoration, as country air, a milk diet, and keeping the bowels open. Blisters should be applied to the breast, if there be fixed pain, or laborious breathing. If there occur anasarcous swellings, much benefit will be derived from cathartics, and the tincture of digitalis conjoined with cordials. If the patient is seized with convulsions, it will be advisable to shave the head and apply a blister, and also the warm bath, to open the bowels, and administer the infusion of skunk cabbage, as recommended in convulsions, and to change the air without delay.

The cough is liable to return with violence on any fresh exposure to cold, after it has gone off for a time, in which case, a gentle emetic is the best remedy. During the continuance of the disease, the patient, if weak, must be supported with a light but nourishing diet; and towards the decline of the disease, the Peruvian bark and other tonics will be highly necessary.

In addition to these means, we would recommend the frequent use of mucilaginous diluent drinks, and that young children sleep with their head and shoulders raised. In all cases, it will be advisable, upon a recurrence of a paroxysm of coughing, to hold the child up, so as to stand upon its feet, with the body bending a litte.

forward. In order to appease the violence of the cough, a proper dose of elixir paragoric ought to be repeated occasionally.

The duration of the disease varies from one to three months; and if taken in the winter, it seldom terminates until the return of warm weather. But in every instance, both the duration and violence of the disease may be diminished by a removal into the country air, or at some distance from the place where it was contracted. A solution of the alkaline salts is a remedy of considerable efficacy.

The following formula has been on some occasions recommended to public notice, as a remedy in hooping cough; although we have no experimental knowledge of the medicine, it may be deserving of trial. Dissolve twenty grains of salt of tartar in a gill of water, add to it ten grains of cochineal, finely powdered, sweeten this with fine sugar, and give an infant a tea-spoonful four times a day. To a child of two or three years old, two tea-spoofuls; from four years and upwards, a table-spoonful or more may be taken. In every case it is necessary that the bowels be kept loose by the use of mild laxatives.

It is often found necessary to administer opiates to alleviate the urgent symptoms in hooping cough, but it is best to combine opium with ipecacuanha and carbonate of soda, as recommended by Dr. Pearson. After the accumulated phlegm has been thrown off by antimonial emetics, he directs for a child between one and two years old, one drop of laudanum, five drops of wine of ipecacuanha, and two grains of the carbonate of soda, made up into a draught with syrup and water, and to be repeated every four hours for several days, obviating costiveness by calomel and rhubarb. Dr. Thomas recommends laudanum, with a few drops of ether applied as an embrocation to the breast and stomach, three or four times in a day. As an antispasmodic in pertussis, artificial musk* has been given with considerable success. The dose for children is ten or twelve drops, graduated to the age and circumstances. Both natural and artificial musk may be very conveniently exhibited in the form of julap, with gum arabic and sugar.† Among the remedies in pertussis, hemlock and digitalis have their advocates, and when combined with opium, they have appeared to af-

* Artificial musk is made by pouring three and a half drachms of nitric acid on one drachm of oil of amber, and washing the product.

† See the American New Dispensatory.

ford relief. Belladona has been much employed in Europe, and it is said with signal success. The dose is a quarter of a grain of the powdered root, with a few grains of sugar, morning and night, to children under one year, to those from two to three years, half a grain, twice in the twenty-four hours; and to those from four to six years of age, a grain and a half in the same time. The dose may be enlarged every two or three days, until the increase equals half of the first dose. The arsenical solution of Dr. Fowler has a high reputation with many practitioners who have been in the habit of employing it in pertussis; it moderates the symptoms in a few days, and sometimes cures the disease in a short time: dose, from two years old to four, two drops, or three to five; from five to seven, five to seven drops; from eight to twelve, seven to ten drops; from thirteen to eighteen, ten to twelve drops. These doses may be repeated once in eight or twelve hours, diluted with gruel or barley water. The compound syrup of sanguinaria canadensis, to be found in the appendix, appears to be well adapted in this complaint. It remains to mention that the feeble patient in the advanced stage of this disease, will require all the aid to be obtained from tonic medicines and a restorative diet. Cinchona bitters, the bark of wild cherry-tree, with preparations of steel and zinc, may be recommended.

PNEUMONIA,—PLEURITIS OR PLEURISY.

A PLEURISY is an inflammation of the pleura, or membrane which lines the thorax and envelopes the lungs. It may be occasioned by exposure to cold, and by all the causes to which other inflammatory diseases are usually ascribed. It prevails chiefly in the spring, and attacks most frequently those of robust constitution and of a plethoric habit.

This disease generally begins like most acute fevers with a sense of cold and shivering, followed by heat, thirst, flushing of the face, and other febrile symptoms. The pulse is quick, hard, and strong; and an acute pain is felt in one of the sides, most commonly the right, which increases upon every inspiration, and attended with a difficulty of lying on the side affected. A difficulty of breathing succeeds, accompanied with short cough, at first dry, but afterwards

moist, with some expectoration of phlegm, either streaked with blood or of a yellowish colour.

The efforts of nature in this disease indicate relief by expectoration from the lungs, with which the pleura is intimately connected, and our utmost endeavours should be directed to the promotion of that salutary discharge.

The patient should be kept quiet, cool, and easy; his diet must be of the most slender kind, and his drinks should be mucilaginous and cooling, as barley water, gruel, infusions of figs and raisins, marsh-mallows, liquorice, flaxseed, and mullein. These should be taken moderately warm, and often sipped, in order to moisten and relax the throat and adjacent parts, and they have an excellent effect in sheathing the acrimony of the humours, which irritate and excite fits of coughing. His feet and hands ought to be bathed in warm water several times in a day, and the steams of the decoction of emollient herbs, or of warm water and vinegar, should be frequently inhaled into the lungs by means of Mudge's inhaler, or an inverted funnel. Drastic cathartics are improper in this disease, but the bowels must be kept moderately loose by small doses of Glauber's salts or aperient clysters.

Pleurisy is one of those diseases in which every physician knows the importance of copious bleeding from the system, as early as possible, after the complaint is formed. It is immaterial from which side blood is drawn, but very essential that it be from a *large* orifice. Dr. George Fordyce is particularly solicitous to inculcate this practice, and it accords with the sentiments of our most experienced practitioners. The quantity drawn, ought to be to the full extent of the strength, and the violence of the symptoms of the patient. If after the first bleeding the pulse remains full, hard, and obstructed, the pain in the side acute, the breathing difficult, and the blood exhibit a sizy crust on its surface, it will be necessary to repeat the operation at the distance of some hours, and even a third or a fourth time, should there be no mitigation of the symptoms; recollecting, however, that after a free expectoration has commenced, bleeding will be injurious. Topical bleeding, either by leeches, or by cupping glasses, and scarification, applied immmediately over the pained part, is of considerable advantage. Emollient fomentations made of camomile flowers, elder flowers, or marsh-mallows, should be applied to the sides as warm as the patient can bear, and soon

as the cloths cool they ought to be changed, and care taken to prevent catching cold. Blisters are of great utility in pleurisy, but in every case of acute inflammation, their use should be preceded by copious bleeding, as they seldom produce so good an effect until the inflammatory action of the system has been in a considerable degree subdued. After proper bleeding has been premised, a blister of eight or ten inches square should be applied immediately over the part affected, and when one is healed another ought to succeed it, and be continued open for several days, or till the pain is removed. Or a large poultice of onions, either raw, or roasted, and sprinkled with vinegar, will sometimes afford more speedy relief than blisters, where the lungs are greatly oppressed without expectoration.

With the view of assisting nature as much as possible in throwing off the offending matter from the lungs by expectoration, various means have been employed and recommended; among the first, and certainly the most efficacious, are mercurials. Very beneficial effects may be derived from the use of turpeth mineral in doses of one or two grains every four or six hours; or a powder composed of about two grains of calomel and half a grain of opium, or this proportion, varied as the case may require, should be repeated every six or seven hours, and a liberal quantity of barley water ought to be directed during its use. This remedy has received encomiums from various respectable sources as an excellent expectorant, and the course should be commenced immediately after blood-letting has been premised. The pleurisy root as directed in the American New Dispensatory, will be found a valuable remedy.

Antimonials, in nauseating doses, are also considered as highly useful in promoting both expectoration and cutaneous perspiration. A solution of tartarized antimony, is the preparation most generally prescribed for this purpose, and the doses should be such as to excite a slight nausea without vomiting. If four grains of emetic tartar be dissolved in six ounces of water, with one ounce of spirits of lavender, and a little sugar, a table-spoonful of the mixture may be taken every four hours. As a powerful refrigerant, sal nitre is much commended in this disease, in doses of ten or fifteen grains every three or four hours; it may be added to the mixture just mentioned, or to the mercurial powder, to avoid multiplying the medicines. When the chest is much oppressed with tenacious phlegm not easily expectorated, the following mixture will be found

well adapted to afford relief. Take of the milk of gum ammoniacum, four ounces, of oxymel or syrup of squills, one ounce, a table-spoonful every four or five hours. Where the action of the lungs requires to be excited by a moderate stimulus, a decoction of the seneka root has been used with satisfactory success. It may be directed in the quantity of two or three table-spoonfuls, as the patient's strength will permit, three or four times in a day.

The class of mucilaginous and oily medicines should in no case of this disease be omitted, as they serve to sheathe the acrimonious humours, to abate irritation, and appease fits of coughing. For this purpose the common emulsions, and the syrup of marsh-mallows, are admirably adapted.

As opiates evidently tend to give a check to expectoration, they should be prohibited in the first stage, but when they become absolutely necessary to procure sleep, and to appease the distressing cough, at a more advanced period, two tea-spoonfuls of camphorated tincture of opium, (paragoric elixir,) with the same quantity of spiritus nitri dulcis, may be directed at night with much safety and advantage.

After the fever and pain have subsided, and the patient is in a state of convalescence, a few doses of gentle physic should be advised, and his body ought to be replenished with healthy juices, by means of a light diet of easy digestion. As persons who have once been affected with pleurisy are particularly liable to its attacks, they ought prudently to avoid every cause which can have a tendency to reproduce the disease.

PERIPNEUMONY, OR INFLAMMATION OF THE LUNGS.

This disease is sometimes complicated with pleurisy, and there is such analogy in their nature and character, that instances occur in which physicians are unable to define the line of distinction. In pneumonia, there is a variation in the symptoms accordingly as the inflammation affects more especially the substance of the lungs, and their proper covering, or the contiguous membranes, and combined with each other in various degrees. The peripneumony is commonly divided into the *spurious*, which is occasioned by a viscid pituitous matter obstructing the vessels of the lungs, and the

true, or *catarrhal*, when it arises from a thin acrid defluxion on those organs. Pulmonary inflammation, by some called lung fever, may proceed from the same causes as the pleurisy, especially the application of cold and wet to the body which gives a check to perspiration, and determines an unusual flow of blood to the lungs; severe exercise, a free indulgence in the use of ardent spirits, repelled eruptions, and external injuries. It attacks principally those of a robust constitution, and plethoric habit, and occurs most frequently in the winter and spring.

The symptoms which characterize pneumonia, are great oppression at the breast, with difficulty of breathing, an obtuse dull pain in some part of the chest, with inability to lie on the side when that is affected, together with a cough, dryness of the skin, heat, anxiety, flushing of the face, sometimes it is swelled, and appears of a purplish hue. The pulse is usually full, strong, hard, and frequent; but in the advanced stage, it is commonly weak, soft, and often irregular. In the beginning, the cough is frequently dry, but in some cases it is moist even from the first, and the matter spit up is various both in colour and consistence, being often streaked with blood.

When pulmonic fevers terminate favourably, the change commonly takes place from the fourth to the seventh day, though in some cases it is extended to the fourteenth.

The curative treatment of pneumonia, both in diet and medicine, is in general, the same as in pleurisy. The cooling antiphlogistic plan of regimen, should be strictly enjoined through the whole course of the disease; the patient must be supported with food of a light nutritive nature.

Blood-letting is of essential importance, and it ought to be drawn from a large orifice, and the quantity proportioned to the strength and vigour of the patient, and the urgency of the symptoms. One copious bleeding is always more beneficial than repeated smaller ones; though in cases of high inflammation, and imminent danger, a repetition of the operation will be indispensable, until an abatement of the inflammatory diathesis takes place. In many instances of slight pneumonia, the pectoral remedies usually directed in catarrh, will effect a cure without bleeding, and in aged persons the loss of blood is often inadmissible, so that much depends on the judgment of the attending physician in this dangerous complaint. The next mean, best adapted to afford relief from the

distressing symptoms, is the repeated application of strong blisters, eight or ten inches square, to the parts affected; practitioners of experience need not to be reminded that vesicating the parts about the thorax, is of the greatest utility in cases of pulmonic inflammation, not only from the discharge which they occasion, but from their effect in removing spasm, and promoting the discharge from the lungs. Warm fomentations, and a poultice of roasted or mashed onions applied to the chest, will be found highly beneficial.

The safety of the patient, however, greatly depends on a free and easy expectoration within the first three or four days of this disorder. Those most powerful expectorants, the mercurial powder, and the solution of tartarized antimony, in small nauseating doses, as directed in pleurisy, may in this disease be administered with full confidence, as experience has amply confirmed their superior efficacy. The two preparations may be given alternately, and when the mouth becomes slightly affected by the calomel, the febrile symptoms will soon subside, and should the antimony induce evacuations from the stomach or bowels, it must be discontinued, or the doses diminished, lest it produce too great debility of the system. The turpeth mineral will be found of signal advantage as an emetic and expectorant. Moderate purgative medicines will occasionally be proper, but these must neither be heating or drastic; eight or ten grains of calomel, followed by an ounce of Glauber's salts, will be a suitable carthartic for an adult. Instances will occur in this disease, in which emetics will be strongly indicated; when the stomach appears to be overloaded, and the lungs greatly oppressed with phlegm, moderate doses of Ipecacuanha, combined with tartarized antimony, or squills, will afford more effectual relief than any pectoral medicine. In cases of young children, who are frequently affected with this disease, there is not a more effectual mode of procuring relief, than by repeated vomiting by means of Ipecacuanha or antimonial wine. It not unfrequently happens, that emetics in their ordinary doses, or even when increased, fail to produce the desired operation. I have in such cases of late years, administered the *lobelia inflata*, or Indian tobacco, with much success. It will often induce vomiting in a very speedy and effectual manner, and frequently relieves the laborious breathing, without its emetic effect. A table-spoonful of the tincture, for an adult, and a tea-spoonful for a young child of three or four years, may be a proper dose, and repeated if necessary according to its effect.

Mucilaginous and demulcent medicines are among the most useful means of affording relief from the fatiguing cough. These have been often detailed in the chapter on catarrh, and on pleurisy. But the inhalation of the steams of warm water, impregnated with vinegar, or demulcent herbs, is a remedy so peculiarly useful in all pulmonic complaints, and at the same time so seldom put in practice, that the employment of it in the most copious manner may be again recommended.

The gum ammoniacum, squills, and the extract of liquorice, possess pectoral qualities which may be advantageously applied in some varieties of pneumonia, and in aged persons, much benefit may be derived from the use of a decoction of seneka snake-root. When the inflammatory symptoms have subsided, and the patient is much exhausted by a distressing cough, two or three tea-spoonfuls of paragoric elixir, in some pectoral drink, will effect the desired respite and relief.

It may be proper to observe, that a large proportion of cases of inflammation of the lungs, have an unfavourable termination, and in the asthmatic, especially those advanced in life, it generally proves fatal.

When on recovery, the patient should carefully guard against exposure to wet and cold, or any irregularity which might occasion a relapse, as it may lay the foundation for a fatal consumption. When tonic medicines become necessary, the cascarilla, quassia, thoroughwort, and the wild cherry tree bark, should be advised, as the cinchona bark will seldom be proper.

When the inflammation of the lungs does not yield to bleeding, and the other remedies prescribed, it usually terminates in suppuration, and a vomica or empyema is the consequence. The former is an abscess or collection of matter formed in the substance of the lungs, and the matter in this case may be discharged by expectoration; the latter, being a fluid floating in the cavity of the breast, between the pleura and the lungs, can only be discharged by an incision made between the ribs, and without this operation the event will be fatal.

Diaphragmitis, inflammation of the diaphragm, *Carditis*, inflammation of the heart, and *Pericarditis*, inflammation of the pericardium, are on most occasions scarcely to be distinguished from pneumonia, and probably are usually combined with it. "Happily the treatment which has been recommended in pneu-

monia is equally suited to these inflammations, with this difference, however, that as the parts affected are immediately necessary to life, the means of cure must be employed with promptness and diligence."

Since it is the opinion of some American writers that the disease now to be considered should be distinguished in its pathological character from *peripneumonia typhodes*, I shall feel myself justified on the present occasion in adopting that appellation which has been assigned to it by general consent.

SPOTTED OR PETECHIAL FEVER.

This very formidable disease made its first appearance in our country in the town of Medfield, Massachusetts, in the year 1806. Subsequent to that period, it has occasionally been recognized as an epidemic in various parts of the New-England states, in the state of New-York, and on the borders of Canada. In 1810 it prevailed with mortal rage in the county of Worcester, and other parts of this state, and in the autumn of 1812, and winter of 1813, the same or a distinct epidemic visited the army of the United States, at Greenbush, and at various other situations, where its destroying power has scarcely been exceeded by military slaughter. It was prevalent also in Connecticut and Vermont, and a considerable number of fatal cases occurred likewise in Boston, both among the inhabitants, and the soldiers quartered in that metropolis. It has usually occurred during the cold weather of winter and spring, and its continuance has been protracted in some seasons to May and June, chiefly in the interior of the country. In some instances, death has ensued within a few hours in a manner similar to the plague, but in others, the disease has been very mild in its attack, and short in its duration. This epidemic exhibits a remarkable variety of character, often counterfeiting other disorders; and is so insidious in its approach, that the physician is not unfrequently surprised by the event of death, even before danger was suspected.

The name "*spotted fever*," as designating the present disease, has been deemed exceptionable by most medical men, as a very small proportion of cases were marked with petechiæ, spots, or eruptions; nay, some have asserted that spots are wanting in five

cases out of six. A judicious writer in the New-England Journal of Medicine and Surgery, Vol. I. p. 240, prefers the name *malignant nervous fever*, as being more appropriate. The predisposing cause of this terrific malady, seems to have eluded investigation. That it is not contagious, is universally agreed. The suggestions that ergot, (spurred rye,) or any other foul grain, has been influential in its production, is not corroborated by a single shade of evidence. The true cause of its prevalence undoubtedly is, like that of all other epidemics, dependent on a peculiar state of the atmosphere, and the predisposition of our bodies being favourable to its operation. The exciting causes are precisely those which are known to operate in all cases during the prevalence of epidemics which are not contagious. These are errors in diet, intemperance, exposure to cold or damp air, fatigue, anxiety of mind, and assiduous attention to the sick. All ages and classes are liable to its attacks, and to become its victims. Persons have often been attacked a second time, and relapses have frequently occurred with the same symptoms as in the original attacks, and these cases often terminate fatally.

The most fatal consequences have been known to result from the influence of fear and horror. The terrific name of spotted fever, or cold plague, its well known fatality, the tolling of bells, the frightful visage, the weeds of mourning, and the tears of sorrow, wonderfully conspire to induce a morbid state of the system, favourable to the reception of the disease, and tend more immediately, perhaps, than any other causes, to multiply the instances of mortality. The humane and prudent physician, therefore, will, to the utmost of his power, divest the disease of its terrific name, and obviate all the circumstances and causes which occasion alarm.

In March, 1810, the counsellors of the Massachusetts Medical Society, solicitous for the public welfare, appointed a committee to investigate the nature, history, and mode of treatment of this alarming epidemic; and of their very able and judicious report, I avail myself on the present occasion.*

The invasion of the disease is generally sudden and violent. The patient is seized in the midst of his usual labours, and oftentimes is struck down suddenly almost as by a stroke of lightning.

* The committee consisted of Thomas Welsh, M. D.; James Jackson, M. D.; and John C. Warren, M. D.

The first symptoms are exceeding various, scarcely two cases resembling each other, and the diversity of symptoms are not to be comprised in any enumeration. The disease often commences with shifting pains, sometimes beginning in one joint, or one limb, in the side, back, neck, or head, either a sensation like a stinging of a bee, or most excruciating pain moving from place to place, with great violence, and is often confined to one side of the body. The pain in the head is often so intolerably severe, that it is compared to the beating of hammers upon the part. Partial loss of sensibility, numbness and paralysis of the limbs, deafness, dimness of sight, or total blindness; delirium, either mild or furious, stupor and coma, convulsions and spasms occasionally attend the access, or occur in its later stages. Some have been affected with that species of spasm termed opisthotonos, when the head and heels have been violently drawn almost in contact. There is a remarkable prostration of strength, and sometimes accompanied or followed by severe chills; the skin dry and pale, eyes dull and glassy, pupils contracted, and again suddenly dilated; the tongue white at first, and assumes a reddish colour; the face sublivid, with paleness around the mouth, and the countenance expressive of the utmost anxiety and distress. The whole body becomes cold, respiration very laborious, pulse small, feeble, and irregular, slow at the beginning, but afterwards greatly accelerated. There is great oppression and faintness, with indescribable distress about the præcordia; eructations, nausea, and vomiting ensue, occasionally becoming incessant, embarrassing, and obstinate. With more or fewer of these symptoms of the first stage, some have died in twenty-four hours. In the second stage, about the third day the pulse becomes more full and regular, the skin warmer, countenance flushed, respiration short and very difficult; eye-lids swollen, and eyes staring, with a throbbing pain in the head, great restlessness, anxiety and delirium ensue. In a large proportion of cases, these symptoms have all subsided, and the disease has terminated within three days, often in one, the patient suffering only a slight debility. The following singular appearances have been observed among the various forms of this disease, especially with female patients. "Universal deadly coldness; skin white as polished marble and smooth; countenance perfectly placid; not one distorted muscle; pulse in the wrist imperceptible; motion of the heart scarcely to be felt; respiration visible only by gasping.

and that not frequent; and as it were only a step between this imperfect state of life, and death." Even from this forlorn and hopeless condition, recoveries have been known to result.

The intestines appeared in general to be exempted from the effects of the disease, as constipation or diarrhœa rarely occurred, though in a few instances bilious matter was evacuated from the stomach and bowels. The urine is scanty and high coloured, and the patient is often afflicted with strangury. When sweating took place, the matter discharged imparted a peculiar mawkish smell. A small proportion of the sick, greater in some districts than others, die in ten or twelve hours, others in twenty-four, thirty-six, or forty-eight hours from the first symptoms of the disorder. On some occasions the threatening symptoms seem to subside, when in a few hours another paroxysm dissevers the slender thread of life. When the fatal termination happens within two days, besides many of the symptoms already enumerated, the countenance is fallen, the solids flaccid, petechial spots of dark colour, violet, or livid, suddenly appear on the superior extremities, and immediately over the whole body. At length confusion of mind, with constant drowsiness, inability to swallow, respiration more frequent and more laborious, with fluttering pulse, bespeak the speedy dissolution of the sufferer.

The spots on the skin occur in all stages of the disease. The blotches are florid, or red and fiery. Vesicles and pustules resembling measles, vaccine and variolous eruptions, attended with itching, and followed by scabs of a brown colour, have in a few cases been observed. After death, the skin assumes a formidable livid colour, either generally diffused over the body, or in spots on the face, neck, and shoulders, and gradually extending to the back part of the trunk. The parts that had been blistered become quite dark coloured and bloody.

On dissection, it almost constantly appeared that the brain with its meninges and blood vessels were in a diseased state, and in most instances there was an effusion of serous fluid, and of coagulated lymph within the ventricles. In the thorax, the heart and pericardium have in general exhibited some appearance of diseased affection, and the lungs and pleura have often been found in a morbid condition.

It has been remarked that this, like all other epidemics, is subject to great mutability of character, seldom retaining the same

form and degree of malignancy in different seasons, and in remote parts of the country. In that form which it assumed in 1812—13, though manifestly the identical disease, the peculiar symptoms were, extreme pain in the side or breast, with great oppression and difficulty of respiration, short distressing cough, chills, and great prostration of strength, the pulse a little accelerated, rather full, not very hard, but easily compressible. The tongue at first yellow, then brown and dark coloured, the countenance peculiarly livid, and the patient slightly delirious. Afterwards the cough increases, and expectoration sometimes occurs. The heat of the body is not proportional to the violence of the pain, and never approaches that of common inflammations. In the worst cases, the pain in the side or head is inexpressibly severe, and the general sensation about the præcordia is indescribably distressing; the patient becomes delirious, and dies in two or three days. In some instances the disorder resembled a common pleurisy, except that the pulse was not so hard, the cough nor the heat so great, nor the progress so regular. Dissections in these cases demonstrated a morbid state of the heart and lungs, with their contiguous membranes.

With respect to the mode of medical treatment in this awful disease, it is obvious that it must be varied with the vacillating symptoms which are present. In a large majority of instances, no pressing danger will occasion solicitude, or embarrassment on the part of the physician, and little attention will be requisite to discriminate between those of the mildest grade, and violent cases, which demand the most prompt and decisive applications to obviate the speedy destruction of the patient's life.

Because experience has sanctioned the practice of evacuating from the system at the beginning of acute diseases in general, it would be absurd indiscriminately to adhere to this rule in diseases of a malignant and debilitating tendency. The most important of all evacuations is that which abstracts the vital fluid from the general system; this may, in the present case, prove highly beneficial, or irreparably injurious. Such is the infinite diversity of forms and symptoms, that no measure can be adopted with a prospect of success, without a cautious discrimination of existing circumstances. The constitution, former habits, season and particular character of the epidemic, must be critically reviewed. Instances have most undoubtedly occurred in practice, in which blood-letting

to considerable extent has been the mean of "turning death into life, and despair into confidence;" whilst on the other hand, there have been some, who, while their condition was not apparently very dissimilar, became the victims of the same operation.

It should probably be established as an invariable rule in this disease, never to open a vein when the blood has receded from the surface and extremities, and left those parts in a state of coldness and torpor. But first moderately stimulate the heart and arteries by mild cordials, as warm wine, ether and laudanum, accompanied by the application of external heat; and when by these means external action and warmth are restored, and the pulse perceived to rise and become hard, blood may be drawn, but if the pulse again sink during the operation, the evacuation must be stopped and cordials administered.

It has been remarked, that in the epidemic of 1810, evacuations were scarcely admissible, whilst in that of 1813, evacuations of some kind were almost constantly necessary, and blood-letting in particular was in most severe cases indispensable. When there is phlegmonous inflammation affecting the brain and its membranes, or when that organ is suffering pressure from the fulness of its vessels, manifested by coma or convulsions, respiration extremely distressing, and if the pressure is so violent that the face swells and becomes almost black, like a person who is strangulated, no prudent physician can hesitate to draw blood from the jugular vein, or the arm by a large orifice, that the relief may be as immediate as possible. If the head be unusually hot, the application of cold water to the head and face during the operation will be proper, and some mild cordial stimulant, as aqua ammoniæ with spirit of lavender, and essence of peppermint, should be given to prevent a dangerous faintness. In cases of inflammation, or local congestion on the heart, lungs, or their membranes, venesection will become equally indispensable; and if in either case much relief be obtained, if the pulse become more full, soft and slow, and especially if considerable inflammatory buff appear on the blood, the operation may probably be advantageously repeated. But in circumstances the reverse of those just detailed, the use of the lancet must be prohibited.

Should there be evidence of a foul state of the stomach, and a dry skin, an emetic of fifteen grains of ipecacuanha, and eight or ten of sulphate of copper should be exhibited. The intestinal

canal must be kept in a soluble state by small doses of calomel or some mild laxative and injections during the continuance of the disease.

The next remedies to be mentioned as among the most important, are epispastics; these should be applied early in the disease, and as near the part most affected as possible; and in order to obtain their speedy good effects, the skin should first be excited by friction with strong tincture of cantharides. When the blisters are applied, care should be taken that they adhere properly to the skin until it be thoroughly vesicated. So highly beneficial are their effects, that blisters ought to be applied in succession to the head and chest, until the most effectual relief be obtained. In every case of considerable violence, the head should be immediately shaved, and cold water and vinegar applied, while the back of the neck and temples are vesicated. Sinapisms to the feet, and sometimes to the wrists, may be useful. In most instances of this disorder, sudorifics will be found essentially beneficial; for this purpose ipecacuanha and opium, in the form of Dover's powder, with camphor, is one of the most eligible preparations, in doses of fifteen or twenty grains, often repeated, until the desired diaphoresis be effected. The sweating should in no case be carried to excess, but a moderate diaphoresis ought to be continued a considerable length of time, to derive from it all the benefit it is capable of affording.

Such is the compound character of this disease in different seasons that instances will occur in which the pulmonary affection will yield only to large and repeated bleedings, in connexion with the other antiphlogistic means. In others, the general prostration of the system will be such, from the commencement, that the lancet must be rejected, and resort had to an alterative course of calomel and opium, in the efficacy of which great reliance may be placed to effect a change in the diseased action of the system.

When the patient is tormented with intolerable pain, recourse must be had to opium as the only solace, and in fact, instances have been reported in which this medicine has rendered permanent advantage. Where besides excruciating pain, the patient suffers from faintness, depressed state of circulation, and torpor of the extreme vessels, the following cordial preparations may be expected to produce the happiest effects, though I have not ascertained that it has been employed in this disease: Take

of volatile tincture of gum guaiacum and anodyne balsam, equal parts, about two drachms every two hours, until relief be obtained. This will produce warmth in the stomach, and over the whole body, excite increased action of the heart and arteries, relieve pain, and promote a diaphoresis.

The oppression on the lungs attended with cough without expectoration, is to be relieved by blisters and pectoral medicines. Of this class none is to be preferred to turpeth mineral; if the patient is not too much debilitated, about two grains given every fourth or sixth hour soon exerts its effect by exciting a free expectoration. This may be assisted, if necessary, by squills and seneka root, the latter of which in doses of a table-spoonful of the decoction, or about six grains in powder, three or four times in a day, has been found highly useful as an expectorant and diaphoretic. Antimonials are not, in any form, it is supposed, advisable in this complaint. We must however except some reported cases, where antimonial wine and laudanum combined, was advantageously employed. A whey prepared from mustard seed, as in the Appendix, has been employed with good effects, and is recommended as a useful warm stimulant and expectorant. As assisting the operation of diaphoretic medicines, a warm decoction of thoroughwort is by some held in much estimation.

Here it is proper to advert to the hazardous practice, so absurdly adopted in many places, of administering, without the advice of a physician, large quantities of brandy and other internal stimulants, tending to increase the excitement in the large internal vessels, without being capable of inducing reaction, and equalizing the circulation in the extreme vessels of the skin. The fullest attestations derived from ample experience, prove the dangerous tendency of these measures when indiscriminately or incautiously employed, as they aggravate all the symptoms, and occasion a rapid progress of the fever into its most malignant state, which suddenly and unexpectedly terminates in death. These means, however, are not in every instance to be prohibited, for oftentimes a cautious use of stimulants may be indispensably necessary. The excitement of the system should on all occasions be supported nearly as possible to the natural standard, but never raised by artificial means above that of health. With this object in view, the stomach must be invigorated by the lighter kind of stimuli, as warm aromatic tea drinks, and such medicines as will communi-

cate congenial warmth, without irritating by their stimulus the heart and arteries. Among these are, saffron, sage, pennyroyal, orange peel, seneka root, Virginian snake-root, cinnamon, camphor, spirit of lavender with essence of peppermint, ether and wine, to which may be added pure cider, coffee, mustard whey, and animal broths. Whilst some of these are given in moderation, the application of artificial heat to the surface is by no means to be neglected, provided there is a deficiency of natural warmth and excitement in the extreme parts of the body. When a torpid state of the cutaneous vessels, and consequent coldness of the skin prevails, and perhaps the internal organs are at the same time labouring under a dangerous congestion, the application of external warmth becomes a point of primary importance in the early stage of the disease, in order to excite action on the surface, and divert from the internal viscera. The warm bath is well suited to answer the desired purpose, but on many accounts it may be more convenient, and not less useful, to enclose the body of the patient in blankets dipt in warm water, renewing them often as they become cool, after which the skin should be wiped dry, and the patient's body kept moderately warm between blankets, that the renewed action on the surface may be properly supported. Billets of wood, having been well heated in boiling water, may also be applied to different parts of the body, where required. The small limbs, or twigs of hemlock, or pine, after being a little moistened, and then thoroughly heated by enclosing them in a cloth with a hot stone, will impart to the body a dry heat, well calculated to fulfil the indications. But the method invented by Dr. Jennings, of communicating heat by means of a spirituous vapour bath, is supposed to be preferable to all other means hitherto employed for restoring warmth and heat to the surface and extremities of the body. Whatever method be adopted, should be so regulated that the heat of the surface be not increased beyond the natural healthy standard. One circumstance, not generally adverted to, is to be regarded as peculiarly important; the patient should never be permitted to sleep longer than one hour without being roused and desired to swallow some drink or medicine, otherwise a fatal torpor or coma may ensue and close in death. In regard to the use of tonic remedies in the last stage of this disease, Huxham's tincture of Peruvian bark, decoction of cascarilla, stomachic bitters, and the

mineral acids, with thoroughwort, are those which may be most advantageously employed.

Fowler's solution of arsenic has acquired considerable repute, and practitioners in general of most experience in this disease, have agreed in their expressions of confidence in its superior efficacy. This remedy, however, is not often to be advised at the onset, but reserved to an after period, when proper evacuations have been made, and a subsidence of violent symptoms has taken place. The proper dose is from three to six drops, every four or six hours, until its effects on the system become evident by a peculiar sensation about the eyes and face.

The diet during this disorder may be more liberal than that allowed in acute diseases in general, as the appetite and powers of digestion are not much impaired. It may consist of the usual farinaceous substances, and animal broths and soups, with some vegetables.

The following valuable statement has been presented for this work by Dr. Benjamin Page, of Hallowell. The extensive experience of Dr. Page renders his communication particularly acceptable, and from the accurate and judicious manner in which he details his method of treatment, it may well be considered as an acquisition meriting the confidence of the public.

Dr. Page's practice, in the *spotted fever*, was in Hallowell and other adjacent towns, in the state of Maine, and for a short period at Wiscasset, and comprising a period (chiefly in the winter) from the commencement of 1810 to the summer of 1816, but the disease prevailed more generally, and with its greatest violence, in 1814.

"The symptoms of this fever, on its first attack, were extremely various. It frequently appeared in disguise, and often counterfeited other diseases; but its characteristic features were so prominent, as seldom, if ever, to mislead the attentive practitioner. It commonly commenced with chilliness, or violent rigors, and the system was usually so torpid, that the patient, though shivering, was never sensible of being cold. Great heat followed, but there was little thirst. Violent pain was felt in the head, commonly across the forehead or through the temples. Sometimes severe pain occurred in the stomach, accompanied with nausea and vomiting; at others, stiffness and pain in the muscles of the back of the neck. Some were seized with pain in one of the eyes, ears, teeth, or in

a single joint; which would often change its situation with the rapidity of an electric shock, to other parts of the body. Many were seized with numbness of the extremities, which sometimes pervaded the whole surface of the body. Slight soreness of the throat usually occurred. There was commonly great prostration of strength, with dejection of spirits, an anxiety about the region of the stomach, and palpitation of the heart. Many persons, without any premonitory symptoms, fell, as it were, lifeless, and required immediate exertion to restore the partially suspended action of the powers of life. The pulse was frequent or feeble, and often unequal and intermitting, but sometimes free from all irregularity. Spots of different sizes and colour, appeared on different parts of the body, at different periods of the disease.

"The bodies of those in whom the disease proved fatal, commonly exhibited a livid discoloration of the skin immediately after death. Hemorrhages sometimes occurred, but were not always an unfavourable symptom. The brain and nervous system were much affected. Coma and delirium sometimes occurred, especially with aged persons, on the commencement, though more generally in the progress of the disease. The hearing was deranged, and in many cases the eye sight impaired. The pupils were dilated, and the eyes suffused with blood. Biles and carbuncles often afflicted the patients, especially in the convalescent state; and sometimes the parotid axillary and inguinal glands were enlarged from the commencement of the disease.

"From these various affections we may conclude, that the first and principal indication of cure is to increase the excitement, and support the sinking powers of life. This may be effected by stimulants, especially of the cordial and diaphoretic class, and tonics. The stimulants should be *external* and *internal*. The former may be obtained by putting the feet into warm water, placing the patient in bed between blankets, and applying to different parts of the body, billets of wood boiled in water, hot bricks, or brands of fire quenched in vinegar or water, and bladders of hot water or flannels wrung out of the same. In severe cases, frictions of the whole body with sweet oil were sometimes used. Blisters and rubefacients to the head, neck, chest, stomach, or limbs, were often highly important; as also sinapisms to the feet. Internally, may be given hot teas of pennyroyal, sage, peppermint, or dwarf yew, (commonly known in these northern parts by the name of *ground*

hemlock ;) either alone, or combined with brandy or other good spirit ; also the warm essential oils ; (those most used were peppermint, lavender, rosemary, origanum, cinnamon, spirits of turpentine, &c. as circumstances required ;) also hot punch, wine whey, &c. When the stomach is much disordered, a gentle emetic of ipecacuanha and sulphate of copper may be given ; always directing after its operation a draught of hot brandy and water, with the essence of peppermint or compound tincture of lavender, or any other suitable cordial. A powder of camphor, ipecacuanha, and opium, with sometimes half a grain, or a grain of calomel, was given every two, four, six, or eight hours ; its frequency depending on the necessity of exciting perspiration. A general circulation and warmth should be procured, and perspiration supported by the cordial drinks, &c. above mentioned, together with hot strong broth, highly seasoned. No purgatives were given until after the first three days ; and then those only of the mildest kind ; (such as castor oil, rhubarb, carbonate of potass, and tartrite of potass and manna, &c.) Injections of milk, sugar, and salt, by way of clyster, were always safe, and often recommended. The *contents of the bowels* were generally in a natural and healthy state, and therefore needed no rash evacuants ; especially in the low and depressed situation in which the patient was often found. Some were known to die while under the operation of a dose of calomel and jalap, in places where the disease made its first appearance. The lancet was found to be equally unsuccessful.

" The above treatment was continued for twelve, twenty-four, thirty-six, or forty-eight hours, or indeed until the pains abated.—The patient was then taken up, and had all his cloths changed. He was again placed in bed, but between sheets ; and kept in only a gentle perspiration. The following preparation from Dr. North was uniformly pleasant and useful to the sick :

R Cort. Cinchonæ Officin. ℥j.
Cort. Citri Aurant. } a a ℥ij.
Rad. Serp. Virg. }
boiled in 3 lbs. water 10 or 15 min. ; strained ; and a gill of molasses and a gill of yeast added.

After standing six or eight hours to ferment, a wine glass of it may be given every three or four hours ; and sometimes with the addition of two, three, or four drops of Fowler's mineral solution, or from six to ten drops of the tincture of opium, or from four to eight or ten drops of the essential oils.—When this beer was not given in the first stage of the complaint, yeast and the muriatic acid were substituted.

"This course was pursued till the violence of the disease abated, which was commonly about the third day; when Huxham's tincture of cinchona, and aromatic sulphuric acid, were employed. In cases of delirium, camphor and opium, with wine and brandy, were freely given, and cold applications used for the head. In cases of coma, (which may be considered as the dying state of the disease,) injections of yeast, brandy, and laudanum, were given with the best effect; and some lives have been saved by this practice.—In one case, where the patient became comatose, in consequence of the nurse neglecting to give the necessary stimulants for several hours, we succeeded in getting down five hundred drops of laudanum in six hours, with a quart of wine, and nearly as much brandy; and though the stimulants were continued through the day, so that he took about two ounces in all, of the laudanum, yet he soon recovered. He had been motionless and senseless; had stertorous breathing; was incapable for a time of swallowing; and had rattling in his throat.—A young married lady was attacked with this fever after her first lying-in, and had mild delirium which soon rose to a most violent fit of distraction, with supervening coma. In one hour, forty grains of camphor, and one hundred and eighty drops of laudanum, were given to her; and in the following three hours, she took four hundred drops more, a bottle of Madeira wine, and some brandy; immediately after which, she began to mend, and gradually recovered, contrary to the expectation of all her friends. Ice was applied to the head in both cases.

"One patient, in profound coma, was saved by shaving and blistering the head, &c. Various similar cases might be mentioned.

"In order to give a more clear and concise view of the method pursued by the writer in the management of this perplexing disease, its usual varieties will be classed under the four following species, or descriptions, and some practical remarks made on each; for it seized, 1° the head; 2° the chest; 3° the viscera of the abdomen; 4° the extremities; though this last species was usually complicated with each of the others.—But in this division of the disease into certain prevailing forms, it must be remembered, that one and the same disease exists under each of them; and that therefore *the general nature of it* should always be kept in view; the necessity of which will soon be seen in practice, as the peculiarities of the species commonly disappear after a time, leaving nothing but the simple disease to be treated by its general remedies.

"1°. When the attack is upon the *brain*, and there is increased heat of the head, and throbbing of the carotid and temporal arteries, attended with mild delirium, cold vinegar and water may be applied to the forehead and temples; but in severe cases with a tendency to coma, apply a bladder partly filled with powdered ice; place a blister on the back of the neck, temples, or forehead; give large doses of camphor and opium; inject yeast, brandy, and laudanum, by way of clyster; apply sinapisms and heat to the feet and legs; and employ any of the general remedies before mentioned, which shall best suit the case. The patient should not be allowed to sleep more than twenty or thirty minutes at any one time, without taking medicine or nourishment, which indeed should be a *general rule* in all severe cases of the disease.

"2°. The *spurious peripneumonic form* of the disease has generally prevailed during the spring months. The primary symptoms were generally, moderate alternate chills and heats; but in some there was a death-like coldness, which pervaded the whole body; yet neither the heat nor the thirst was considerable; pains (sometimes obscure) occurred about the chest, with great oppression and cough, difficult breathing, and expectoration of viscid dirty brown matter; and in some of the most malignant cases, blood (sometimes very florid) was expectorated completely dissolved; and there were sometimes nausea and vomiting.

"To relieve the oppression and pain of the chest, a bladder of hot water, or any one of the heated substances before mentioned, was first applied to the pained part; after which, if there was much nausea, a gentle emetic of ipecacuanha and sulphate of copper was given and frequently repeated. A powder composed of camphor, compound powder of contrayerva, carbonate of ammonia, and spermaceti, was directed every two, four, or six hours, to promote warmth and perspiration, &c. A decoction of seneka snake-root, elecampane, liquorice, and aniseed, sweetened with honey, was also given, farther to encourage warmth, perspiration, and expectoration. The patient should frequently inhale the vapour of water and vinegar, as rising from a heated shovel, or from a vessel. In mild cases, after using warm external applications as above mentioned, the chest was anointed with sweet oil, and covered with warm flannel; or rubbed with an infusion of cantharides in vinegar, till vesication was produced; but in deep seated affections, large vesicating plasters should be applied. Internally should

also be given, in malignant cases, warm stimulating cordials, such as some of the essential oils, old Geneva and water, hot punch, wine, wine whey, mustard whey, and bottled cider. When the beer before mentioned was prescribed, (and it was usually given after a few days to the worst of the sick) seneka was substituted for the Virginian snake-root. The bowels were kept open by injections, or mild laxatives. Camphorated tincture of opium may be taken in the evening in wine whey. When dysuria occurred, linseed tea and gum arabic were given; and warm stimulants applied to the hypogastric region. A decoction of barley with raisins or figs, and broth, were also taken for nourishment.

"3o. When the violence of the disease was directed to the *stomach and bowels*, and produced vomiting, cholera morbus, or colic; in addition to the common remedies, a solution of the carbonate of potass and yeast may be given by the mouth; and the same, with tincture of opium, by injection. A bladder of hot water, or a flannel bag with bitter aromatic herbs, (such as hops, tansy, or wormwood,) infused in heated spirits, may be applied to the stomach and bowels: or a rag may be dipped in the heated infusion, and this application to the part be repeatedly renewed. The compound powder of contrayerva should be given with the common powder of ipecacuanha, camphor, and opium, first mentioned; and also an infusion of Virginian snake-root, camomile flowers, and cinnamon or ginger. Sometimes carbon, in the shape of powdered charcoal, was employed in the injections; and often, when there was purging, this carbon was taken by the mouth. Every thing must be taken here warm; and if there be nausea, it must also be in very small quantities at a time, even by tea-spoonfuls. The bark beer may be give here, and brandy, and warm soup also, highly spiced, should not be forgotten. A cordial composed of essence of peppermint, compound tincture of lavender, and laudanum or paragoric, should be taken several times daily; particularly when the strength or spirits at any time begin to fail. Frequent rinsing the mouth with cold water was very grateful to the patient; but when swallowed, it chilled the stomach and occasioned vomiting; as did all insipid drinks. In some cases, the taste was so much depraved, that the patient would drink clear high proof brandy with as much facility as pure water; scarcely perceiving the difference.

"4o. When the *extremities* were affected by coldness, pain, or numbness; then stimulants in the way of friction were employed, (such as a decoction of pepper or mustard in spirit, tincture of cantharides, or an infusion of cantharides in vinegar.) The warm internal stimulants, &c. spoken of in the general treatment, will also be here applicable.

"Biles and carbuncles should be treated with stimulant applications. A poultice of onions may be applied, or a plaster of flour and honey, and a little powdered myrrh, till the parts suppurate and discharge. Afterwards they may be daily washed with weak ley, and dressed with digestive ointment, or flour and honey. Zinc ointment also often succeeds, even better than the rhubarb and colomba root of Sir Everard Home.

"Bark may now be given in substance. But the writer has found no medicine superior to Griffith's myrrh pills for convalescents. The following is the form taken from Dr. North, who has a little varied the prescription of Dr. Griffith.

R Pulv. Myrrhæ	ʒij.	make a mass, to be divided into 36 pills.
Sulph. Ferri	ʒj.	
Carb. Potassæ	ʒss.	
Gum. Camph.	grs. xvi.	
Syrup. q. s.		

"Three of these pills may be taken three times a day, drinking after each dose, a decoction of the cinchona, eleutheria, or angustura barks; or the colomba or quassia roots.

"The rooms of the sick should be kept uniformly warm, but freely ventilated; and the bed and body linen changed as often as every other day.

"No disease requires more careful nursing, and perhaps none is more liable to relapses. These happen not so much from indulging the appetite in eating; for a convalescent patient has seldom been known to be injured by taking beef or mutton steak, chicken, neat's tongue, ham, small fresh fish, &c. in due moderation; but from too early an exposure to cold or to fatigue. Severe relapses, when they do occur, are frequently dangerous, and often fatal; but are to be treated as new cases.

"More than two thousand cases of this disease have been managed according to the method herein described; and after making every allowance for delay in calling for advice; improper remedies previously used; bad nursing; uncomfortable situations; the want

of necessary supplies, and imprudence on the part of the patient, often occasioning relapse; the average number of deaths has not exceeded two and a half in a hundred.—The fever has generally run its course by the fourteenth day.—Many *violently* attacked were cured by the third day; particularly because in such cases there was no delay in calling for immediate advice, or neglect in following it.—Since the present year (1816) commenced, few or none but pneumonic cases have appeared; and those generally have been milder than heretofore. Since February last, the writer has attended upwards of two hundred and twenty patients in this form of the disease, of whom one only has died; and to him he was not called till after he got a relapse, from fatigue in walking out and taking cold. One only of this number, a man of robust and full habit, was once bled to the amount of eight or ten ounces; and this bleeding might have been safely omitted.

"Before closing this paper, it may be remarked, however, as a general fact, that the disease as here described and treated, was once only observed by the writer on the sea-coast; his residence as a practitioner confining him to the interior parts of the country, where both the *situation* and *winds* are dry and healthy."

Hallowell, September 16, 1816.

In a late publication by Thomas Miner, M. D. the author has substituted for spotted fever the name *Typhus Syncopalis*, Sinking Typhus.

The following is an extract from that production, and it is hoped that its intrinsic merit will apologize for its length.

"*Typhus Syncopalis* may be defined, a *nervous fever in which the stage of reaction is wanting, the torpid or forming stage and the stage of exhaustion being blended together, attended with pain in the head and vertigo, and paroxysms of gastric sinking;* and for the most part, with a cool skin and a slow pulse, and an absence of all febrile smell. Petechiæ, eruptions, ecchymoses, general suffusion of the capillaries, coma, delirium, palpitation, interrupted respiration, numbness and insusceptibility to the action of ordinary rubefacients and epispastics, and sinking after evacuations, are much more common than in any other febrile disease. *By attending to these symptoms, it may be more easily distinguished than any other continued fever.* Coma or delirium may sometimes be so severe or so protracted, as to overwhelm or disguise every other

symptom; or the attack may be so violent as to destroy life in a few hours; and in these circumstances, in sporadic cases, there may be with the inexperienced, some hesitation as to the nature and name of the complaint; but on the whole, there is less liability to mistake, than in the diagnostics of any other acute fever with which we are in the habit of meeting in the ordinary course of practice. Dysentery, cholera, cynanche, catarrh, cough, pneumonia, measles, rheumatism, gout, and even common typhus, are often complicated with it; yet there is always some prominent symptom by which it may be determined, when the *general affection of the system* is that of typhus syncopalis."

Dr. Miner states that between the last of March and the last of December, 1823, two physicians had the care of more than one hundred and seventy-seven cases of this disease, in Middletown, Connecticut, which went through their course, and required close and vigilant attendance. They also had the charge of more than one hundred and eighty other cases, which either from original mildness, or prompt treatment, proved to be comparatively slight. Out of these cases, being in the whole about three hundred and sixty, twelve died; viz. six adults and six children. Persons of all ages, from one year old to seventy, and of both sexes, were the subjects of this disease. The condition of the brain in this disease was usually very similar to that state which is produced by exposure to carbonic acid gas, or which is occasioned by excessive doses of some preparations of lead, or of certain essential oils, or of active and pure narcotics. In many cases it resembled concussion, or apoplexy, or palsy. In all the severe, and in a majority of the mild cases, there was from the very access, before a particle of medicine had been taken, a *peculiar deficiency of vital energy in the brain, and the whole nervous system;* so that raising the patient into an erect posture, would generally produce the same sort of vertigo, anxiety at the stomach, acceleration of the pulse, nausea and even faintness, which result from a similar position after a great loss of blood; but in one instance the patient could not lie down without feeling as if his feet were in the air, and his body hanging from them with the head downwards. He was very speedily relieved by blistering the head. Nearly every case of delirium, alternated with coma, but every case of coma was not attended with delirium. In some cases the delirium resembled intoxication; in many, hysteria; and in others it was of the low muttering kind, such

as is common in ordinary low fevers. In many of the severe cases, the patient on going to sleep would fall into a state resembling incubus, with difficult or partially suspended respiration, which would require his being awaked as often as every five minutes, and some would awake spontaneously in the most excruciating fright and distress, and greatly exhausted. Every variety of pulse occurred except the *strong* and *hard*, and this often in the same patient. In many of the mild cases, and in most of the others till the period of fatal sinking, it was rarely so frequent as in health; but towards the close of life in several of the fatal cases, it was one hundred and twenty or thirty, and occasionally one hundred and sixty in a minute. In less than twelve hours it would sometimes vary in frequency from forty to one hundred and thirty. In one instance it was slow as twenty-seven, and in six or eight hours varied to one hundred and thirty. This patient recovered rapidly. In some instances even in the dying, the pulse would give a delusive feel of fulness and force that often deceived the very best judges respecting the danger, unless attention was particularly directed to other symptoms. In most of the worst cases the circulation was daily so languid by turns, that the extremities had a livid appearance and were often nearly pulseless. One patient at least recovered that was without pulse at the wrist for several hours. A very prominent symptom consisted of paroxysms of *subsidentia*, or a death like *sinking* sensation in the epigastrium, that was described sometimes as a painful sense of vacuity and faintness, sometimes as trembling or fluttering, sometimes as real pain and anguish, and at others was declared to be utterly indescribable. Sometimes these paroxysms of sinking were attended with palpitation, and often with spasms; tremors and subsultus were not uncommon in every stage. In many of those cases which were neglected, or treated with evacuants, a peculiar and somewhat different, and usually irreparable sinking and exhaustion occurred after *a critical effort*, or in lieu of a crisis, on the third, fifth, or more commonly on the seventh day. Under such circumstances, in addition to the sinking in common with other cases, the respiration was interrupted and peculiar, the inspiration occurring only at intervals of several seconds and being usually long and full; while the expirations were so short that the breath was parted with instantaneously. The *critical* sinking in combination with morbid respiration, was often the first warning of danger in the insidious cases, and it was almost invaria-

bly irremediable. In other fatal cases the disease terminated in a deadly coma. Paroxysms of coma were periodical in some instances, as were those of sinking in others. The stomach on the one hand, was usually as torpid and inactive as a leathern bag, so that in many instances, the patient would choose scalding hot liquids; on the other, it was irritable in the extreme. The change from one to the other of these extremes was generally sudden, and occasioned by slight causes, or took place without any assignable cause. In some instances the irritablity would be so extreme, that without the nicest and most careful management vomiting or retching would be incessant. The matter ejected generally consisted of little more than the drink or secreted mucus. In a few instances it was greenish, in a very few dark coloured, seldom any bile evacuated. The vomiting seemed to be entirely symptomatic of an affection of the brain, or was obviously the effect of an emetic or carthartic. This was evinced by its being excited by raising or moving the head, or by an erect posture, and relieved by a recumbeut position; and especially by blisters to the forehead, temples, &c. The author has seen carbuncles two or three inches in diameter, in the last stages of this disease, and also has known the carbuncle to be the earliest symptom that was noticed; swelling of the parotid glands, phlyctænæ, vibices, petecchiæ, ecchymosis, &c. occasionally occurred.

In the treatment of typhus syncopalis, it should be observed as a rule to avoid every thing that might tend to *waste the vital powers*. Evacuations, if copious, invariably rendered the mild cases severe, and the severe ones fatal. Probably more than three quarters of the fatal cases were the consequence of spontaneous or factitious purging or vomiting. In some few cases under peculiar circumstances, where torpor prevailed, emetics of zinc and ipecacuanha in skilful hands have successfully roused the symptom; but then it often requires a drachm of each to operate. Small doses are worse than useless. In sudden and violent cases, emetics and carthartics at first are utterly inadmissible. The mildest emetic would almost inevitably produce incessant vomiting, which if not controled by very large doses of opium, or laudanum, by enema, would end in exhaustion and death. More than three quarters of all the cases were at first very slightly purged with calomel, so guarded as not to operate before twelve or eighteen hours. It was necessary to manage laxatives with the greatest

caution, and very generally to conjoin them with opium. Several patients who of their own accord attempted to purge themselves even with castor oil, provided it operated more than once or twice, and was not instantly checked by opium, obviously sunk down and died in consequence of it; one patient sunk irretrievably by a single operation of an enema. The proper time for evacuating the bowels in the lowest cases, was indicated by tenderness of the abdomen, uneasiness, or slight pain, which showed that the torpor of the intestines had ceased. The best way of evacuating the bowels appeared to be by giving daily about a drachm of magnesia, and if necessary assisting it by an enema. Bleeding need not be mentioned but to warn against its fatal tendency. That a number of cases sunk from bleeding, when the disease first appeared and was mistaken for active phrenitis, is universally notorious. In every severe case *free* bleeding, as also *free* vomiting and purging, is almost certain death. Opium, was the most important remedy in the severe form of this disease, and was in such cases *regularly* administered from the very first visit. A few cases imperiously required half an ounce of the tincture in an hour, or half a drachm in substance, in the course of twelve hours, before the urgent symptoms could be controled; and even some cases required a drachm in the same time. *All those patients whose symptoms promptly met with opium invariably recovered.* Opium in sufficient quantities, assisted by external application, would command every peculiar symptom with certainty except the extreme sinking; and even in this forlorn state it mitigated much of the anxiety and distress and prolonged life. Alcohol was beneficial in some cases, but less so than opium. Lytta and capsicum internally were very serviceable in the torpid cases; but increased the irritability of those who were previously irritable. Arsenic, in the form of Fowler's solution, was very efficacious when the head was much affected, and the stomach at the same time torpid. Tincture of stramonium, combined with tincture of opium, occasionally relieved delirium. Camphor, ammonia and ether, were useful during the sinking paroxysms. The same was the fact with the essential oils. Enemas of one drachm of oil turpentine, and two of laudanum, every four or six hours, will prove useful in coma.

The early use of the hot bath, the water being as hot as can be borne without danger of scalding, proved very serviceable. Bottles of hot water, heated bricks, or wood, hot spirits, mustard, liquo

of ammonia, capsicum, and oil of turpentine, were resorted to as strong and quick rubefacients, and these greatly assisted the operation of epispastics which were very extensively and advantageously employed. Oil of turpentine, warmed and confined to prevent evaporation, was the speediest epispastic, and was of much benefit in coma. But after all, in the severest forms of the disease, opium, alcohol, arsenic, aromatics, tincture of cinchona and external applications with no other medication, might be depended upon. In a state of convalescence the sulphate of quinine was administered in preference to any other preparation of cinchona. To conclude, in the words of Dr. Miner, "Typhus-syncopalis or the spotted fever, when neglected or injudiciously managed, is among the most deadly maladies which a mysterious Providence permits to scourge the human race. When taken in season, and treated with decision and judgment, few diseases yield with so much certainty to a proper course of medication." "No foreign author, it is confidently believed, has described this disease. We occasionally see the typhus petechialis of nosologists; it differs essentially from the spotted fever of New-England."

The following singular case of *sinking typhus* was communicated in a letter from Dr. Miner. A female about sixty years old, naturally robust, in the winter of 1826, after labouring under the disease for a week or two was seized with a delirium resembling that of *mania a potu*, though she continued to be so weak as to be unable to get off her bed. In this condition she took *two drachms of strong laudanum every hour, and one drachm tincture of stramonium, every two hours for four or five days.* She recovered entirely. This, says Dr. M. is a case of the *heaviest* practice I ever knew, but not too much to meet and control the symptoms. What a strange disease must that be which could even tolerate such practice for half a day! much more so four or five days!

PHTHISIS, OR PULMONARY CONSUMPTION.

It is a melancholy truth verified in numerous families, that pulmonary consumption constitutes a large proportion of our bills of mortality, and forms one of the most crowded avenues to the tomb. It is supposed that about one seventh of all the deaths in Massachusetts, are to be attributed to this fatal disease. It is calculated

by Dr. Young, an eminent English physician, that one fourth part of the inhabitants of Europe are swept away by consumption, and he estimates the fatal instances in Great Britain alone to amount to no less than 55000 annually. This disease has been observed to make the most deplorable ravages among our youth of both sexes, between the ages of 17 and 27. When hereditary predisposition is derived from parents, instances frequently occur of whole families one after another becoming victims to it in the early periods of life. It seems to be a received opinion that phthisis possesses a contagious nature in a slight degree. There is indeed much reason to apprehend that by sleeping in the same bed with a consumptive patient in the last or ulcerative stage, with fœtid expectoration, night sweats, and offensive breath, or by being much confined in a close room and imbibing the effluvia from the lungs, the disease may by these means be actually communicated to those in health, but more especially to those who have a similarity of constitution and hereditary predisposition.

The immediate cause, in the largest proportion of instances, of consumption, is supposed to be tubercles, or small tumours, which finally suppurate and form ulcers in the substance of the lungs, and this is considered as the most dangerous kind. These tubercles, although they may continue for an indefinite period in an indolent state, at length become inflamed, and are changed into little abscesses, or vomicæ, which burst and pour their contents into the bronchiæ from which a purulent expectoration ensues. This is termed the strumous or tuberculous phthisis, there being an obvious connexion between scrofula and pulmonary consumption, as the tumors in each case exhibit similar appearances and are equally intracticable in their ulcerated state. These vomicæ are apparently conglobate glands, similar to scrofulous, and are excited into a state of inflammation from accidental colds or from irregularities of diet, and when numerous vomicæ have suppurated, the lungs are loaded with pus and a whole lobe is sometimes destroyed a considerable time before death closes the scene. The generality of consumptions in the United States, are the consequence of colds and coughs, which have been neglected, or injudiciously treated in their early stage. Persons who are most subject to become consumptive, are those of a delicate make, fair complexion, and florid countenance, soft skin, long neck, narrow chest, prominent shoulders, with hollow temples, thick upper lips, a weak voice, great sensibility, and

clear white teeth. This description of persons have constitutionally weak and tender lungs, and need nothing but colds and coughs to excite inflammation, which end in suppuration, hectic fever, ulcers, and consumption. This disease is also often hereditary, and those most subject to spitting of blood, are likewise most liable to its attacks. There are some occupations in life which dispose persons to consumptions, such as require artificers to sit in one position, or constantly to lean forward and press upon the stomach and breast, as cutlers, tailors, and shoe-makers; it has been also observed that the small particles of stone, wood, metals, and other hard substances inspired into the lungs by the workmen, have produced this disease in the artists who work in those substances. Phthisis pulmonalis often takes place in consequence of certain diseases, such as catarrh, pneumonia, inflammation, ulcerated tonsils, hæmoptoe, syphilis, scrofula, influenza, small-pox and measles; and also from violent passions of the mind, as grief, disappointment, anxiety, and close application to study, without proper exercise; playing on wind instruments, dissipation, and intemperance; over exertion of the vocal organs by public speaking, singing, &c. Those clergymen who spend their strength unsparingly in the pulpit are peculiarly liable to phthisis. Excessive evacuations of various kinds, and a sudden suppression of cutaneous eruptions, and of those evacuations to which the system has been long accustomed, are also to be reckoned among the causes which give rise to this disease. Among the operative causes in the female constitution, is a too long continuance of nursing children at the breast. The excessive drain from the system, the fatigue of carrying the child, and the interruption to sleep at night, have an inevitable tendency to exhaust and debilitate the system, and to act as the exciting cause of this fatal disease. Women of delicate and feeble habit should not carry this duty beyond nine or ten months at one period.

The sudden changes of temperature to which our climate is subject, is undoubtedly a principle cause of the frequency and prevalence of consumptions, and many other diseases in our country. Confined air in hot close rooms, is well known to be extremely prejudicial to health. What can be more pernicious and destructive to the human constitution, especially to tender lungs, than the sudden changes from heat to cold, and from cold to heat, as practised by many young gentlemen who spend the day in an office or counting room, heated to a great degree by a stove, and in the

evening exposed to the dews, damp air, and cold easterly winds, unprovided with covering sufficient to protect the body from their noxious influence? nor is this remark inapplicable to the other sex; our fashionable young females, accustomed to a warm apartment during the day, often brave the elements in the evening, and resort to the theatre or ball-room with uncovered breast and neck, naked arms to the shoulders, and thin shoes; by such imprudent exposure, who is surprised that colds are contracted, and that so many young persons are consigned to the grave in the bloom of life?

Another source of great injury to the constitutions of young persons, is a habit of indolence, or a want of bodily exercise, which nature requires to expand the chest and strengthen the lungs, to preserve vigor and energy in the system, and that due order and regularity in the animal functions, on which a healthy state so essentially depends.

For practical purposes, Dr. Thomas observes, it may be sufficient to distinguish carefully between pulmonary consumption which occurs in persons of the strumous temperament, and that which attacks constitutions of a different description from accidental causes, such as an exposure to cold, or as the consequence of other diseases. Dr. Hosack, however, prefers as the best distinction that can be made, to divide the disease into two stages, the *acute* and the *chronic*. These terms convey a correct idea of the nature of the inflammation attending upon the first stage of phthisis, and of the termination of such inflammation in the last stage, in which ulceration or an excessive excretion of pus takes place. For this reason, too, Dr. H. has thought proper to give it a place among the phlegmasiæ, instead of considering it as one of the hemorrhagies in which order it is arranged by Dr. Cullen.

The first symptoms of phthisis pulmonalis, usually vary with the cause of the disease; when tubercles are the immediate cause, it begins with a short dry cough, without much expectoration for some time, except a frothy mucus, that seems to proceed from the throat, and mostly in the morning, sometimes exciting vomiting. The patient feels an uneasiness about the chest, or a sense of pain on lying down on one or both sides, or under the breast bone; the breathing is also oppressed by the least quickened motion, and particularly so in hot rooms, or in moist weather; his spirits are very irregular, being either very lively, or much dejected, with-

out any known reason, and the body gradually emaciates. A particular quickness and cautious manner of speaking is observable, as well as an unnatural peevishness, though before of the most amiable disposition. These symptoms may be observed perhaps many months before the patient thinks of complaining, or will acknowledge that he is so ill as to require attention; when indeed this is a most critical moment, and perhaps the only one, when by proper care and judicious management, he may be rescued from his impending fate. The patient under these circumstances, is more easily affected than usual by slight colds; the cough grows more troublesome and severe, particularly at night, and the expectoration is more free and copious, of a greenish colour, and on some occasions streaked with blood. The laborious breathing, the emaciation and weakness, go on increasing, the pain becomes severe, and the patient is unable to lie on the side affected, or to make a full inspiration without exciting a fit of coughing. The pulse at the beginning is often natural, or perhaps is soft, small, and a little accelerated; but at length becomes full, hard, small, and frequent, even to one hundred and twenty or upwards in a minute: a red flush now appears on one or both cheeks, particularly after meals, with a dryness and heat in the palms of the hands and soles of the feet, the evening exacerbations of fever become obvious, and the patient is now affected with the whole train of symptoms which usually accompany a confirmed *hectic fever*. "This species of fever is evidently of the remittent kind, and has two exacerbations every twenty-four hours. The first occurs usually about noon, and a slight remission ensues about five in the afternoon. This last is, however, soon succeeded by another exacerbation, which increases gradually until after midnight; but about two o'clock in the morning, a remission takes place, and this becomes more apparent as the morning advances. The patient is very sensible to any coolness of the air, and often complains of a sense of cold, when his skin is at the same time preternaturally warm." The evening exacerbation in hectic fever is by far the most considerable, and on some occasions, particularly in cases of hæmoptoe, the hectic symptoms advance with more rapid strides. In general the urine is high coloured, and deposits a copious branny red sediment. The appetite is not greatly impaired, the tongue appears clean, the mouth is usually moist, and the thirst is inconsiderable; at length, aphthous ulcers appear in the mouth, and the

red vessels of the coats of the eye assume a pearly whiteness, a florid circumscribed redness appears on each cheek during the exacerbations, but at other times the face is pale and the countenance sunk and dejected. The tongue appears clean, and with the fauces is of a bright red colour, and generally sore and tender. The pulse is frequent, full, and tense, or small and quick; the palms of his hands and his feet are hot and dry; his nails are of a livid colour, and are bent over the ends of his fingers; his breath offensive, quick, and laborious. A colliquative diarrhœa and night sweats ensue, and induce great debility and emaciation, the eyes lose their lustre and brilliancy, the cheeks appear prominent, the nose sharp, the temples depressed, and the strength rapidly declines. The miserable patient now exhibits the appearance of a walking skeleton bewailing the loss of its corporeal substance. His voice becomes hoarse and feeble, his hair falls off, and his feet and legs are affected with œdematous swellings, and a glossy appearance of the skin. At this period the substance of the lungs is almost consumed, and their feeble remains are loaded with purulent matter, large quantities of which are constantly expectorated; the laboured breathing now, like the expiring taper, grows more and more feeble, faintness often occurs, the heart ceases to perform its office, the voice falters, and the melancholy, long protracted scene is brought to a close. Thus thousands are consigned to a premature tomb. It is a characteristic trait in this disease, that the patient is seldom alarmed with his approaching fate, but retains his hope to the last and still flatters himself with a speedy recovery.* In female cases the menstrual evacuation is sometimes profuse, at others altogether suppressed. When women are affected with consumptive complaints previous to a state of pregnancy, the symptoms are generally suspended, or so disguised during that period, that both the patient and friends are unconscious of any impending danger; but shortly after parturition, the disease resumes a more rapid pro-

* Even physicians themselves have been known while just expiring with this complaint, to be unconscious that they were consumptive. "A late eminent teacher of Anatomy, in his very last lecture, (at a time when the symptoms of confirmed decline were too obvious to be mistaken by the youngest of his pupils,) speaking of this circumstance whilst describing the structure of the lungs, observed: "This deceitful persuasion is not to be wondered at in those who have not studied physic; but that any man to whom frequent observations must have made every fatal symptom so familiar, can be blind to his own situation, is truly wonderful." He himself died of phthisis within the fortnight.

gress, and soon terminates in death. In some instances, however, by several successive pregnancies the phthisical diathesis has been altogether eradicated and a healthy condition established.

When it is desired to ascertain whether the matter expectorated be pus or mucus, the following experiment, discovered by the late Mr. Charles Darwin, will afford a decisive discrimination. Let the expectorated matter be dissolved in sulphuric acid and in caustic alkaline lixivium, and then add pure water to both solutions; and if there is a fair precipitation in each, it is a certain sign that some pus is present: if in neither a precipitate occurs, it is a certain test that the material is entirely mucus. Another method has been invented by Dr. T. Young, physician to St. George's Hospital, more convenient and not less satisfactory. He found by experiment that a luminous body, when viewed through a transparent liquid holding in suspension minute particles of nearly equal dimensions, "is surrounded by rings of colours somewhat resembling the rainbow, but differently arranged and often beautifully brilliant. Blood, a little diluted, always exhibits them in great perfection, and they afford a very accurate criterion for the distinction between pus and mucus. Mucus, containing no globules, affords no colours, while those which are exhibited by pus exactly resemble the appearance produced by the blood, the rings being usually of the same dimensions. A minute quantity of the fluid to be examined in this manner, may be put between two small pieces of plate-glass, and if we hold the glass close to the eye, and look through it at a distant candle, with a dark object behind it, the appearance, if the globules are present, will be so conspicuous as to leave no doubt respecting their existence." Pus is of the consistence of cream, of a whitish colour, and has a mawkish taste; it is inodorous when cold, and when warm, it has a peculiar smell. It should here be remarked, that instances sometimes occur in which there is neither much cough nor expectoration till within a short period before the patient expires; nay, further, a hectic fever has been known to prove fatal after a long continuance, without any purulent expectoration, or any very considerable discharge of mucus; and it often has the appearance of a slight cold. There are likewise many instances on record, of the lungs on dissection being found perfectly sound, no traces of tubercles or ulcers being discovered; all the terrible symptoms of confirmed consumption in these cases, arising from extensive inflammation of the membrane lining the bronchia. Pus,

it has been ascertained, may be formed from the vessels of a membrane where there is no ulceration. and the debility and emaciation consequent to a copious discharge of purulent matter, will readily account for all the symptoms which supervene.

Confirmed phthisis may be considered among the diseases most difficult to be controlled by the medical art, yet Dr. Parr asserts that in six distinct well defined instances, he has seen recoveries perfected by nature; and Dr. Good has seen one instance of recovery when reduced to such a condition as to expectorate a pint and half of pus or purulent mucus daily, attended by exhausting night sweats and anasarca. Whether this cure was to be attributed to the means employed or to the efforts of nature, Dr. G. does not decide.

The plans of treatment in phthisis pulmonalis, vary with the supposed cause, and according to the views of the different practitioners by whom they are prescibed. There is, however, little or no diversity of opinion relative to the great utility of a rigid adherence to a well adapted regimen, and a careful avoidance of all the exciting causes by which the disease has been produced. From the fullest conviction, derived from experience, as well as the observations of others, I can assert, that more confidence is to be reposed in this plan, than in all the drugs and medicine that can be prescribed by the most skilful physician. Of all the articles of diet, I consider milk as incomparably the best adapted to the circumstances of consumptive patients. It constitutes a sort of medium between animal and vegetable food; it is of a mild bland balsamic nature, easy to be digested, and admirably calculated to furnish the blood with sweet, wholesome, nutritious chyle, and to sheath the acrimony of the humours. But in order to derive all the advantages of a milk diet, it is not to be taken sparingly once or twice in a day, it must constitute the principal sustenance of the patient, combined with a little toasted bread, or some light agreeable vegetables. Asses' milk has been held in the greatest estimation in this disease, but in this country it cannot be procured in sufficient quantity for the purpose of diet. That milk should be preferred which comes from young, sound, and healthy cows; and it should be taken while warm from the animal if convenient, at least four times in twenty-four hours. Dr. Buchan says, that milk alone is of more value than all the medicines in the Materia Medica. But I am aware of the objection that milk does not agree with

all constitutions; it may be admitted that in some stomachs, when first introduced, it is apt to produce unfavorable effects, but by proper management, it may in almost every instance be rendered agreeable and salutary. If the milk be too rich, or there be an acid in the stomach, by which the milk is coagulated into cheese curds, let one third the quantity of lime water be added; if it produce a diarrhœa, a spoonful of good conserve of roses, or a drachm of prepared chalk will correct it; if costiveness be induced, a little rhubarb and manna, or cream of tartar, may be taken occasionally. There are several articles possessing mild nutritious properties, which ought to be combined with milk; apples baked or roasted are admirably adapted to this purpose; consumptive patients have been cured, it is said, by this simple diet alone. There is a valuable domestic article but little known, produced plentifully in our low meadows, which may be esteemed as not inferior to any thing of the kind with which we are acquainted. It is the root of the Osmund Royal, by some called meadow Buck's horn.* There is not perhaps a vegetable which produces a soft bland mucilage in so great abundance. The roots fresh from the ground, should be cleaned, and then boiled in milk, or with the addition of a little water, until it thicken to the consistence of common starch for use; it imparts no unpleasant taste to the milk, and the patient may eat of it to any quantity he pleases, and with a certainty of beneficial effects, it having in some instances contributed, it is said, very greatly to the cure of consumption in its early stages. Besides milk, the preparations made from it, as whey and butter-milk, may be used by consumptive patients with great advantage. The whey may be made from new milk, by adding to it a little rennet, cider, orange juice, or cream of tartar, and the patient should habituate himself to the drinking a tumbler full of it several times in a day. Butter-milk, while new and sweet, may be taken in the same manner, and with salutary effects, beginning with small quantities, and increasing as the stomach can bear. Other articles possessing nutritive qualities, proper in consumptive cases, are beef tea, meat broths, calf's feet jellies, eggs, and shell-fish; oysters taken with their juices in a raw state, are perhaps, preferable to every kind of animal food, on account of the nutritive and salutary properties which they afford.

---

* Flowering Fern.

Oysters have been represented as peculiarly calculated to counteract a tendency to consumption; they may be eaten either raw or moderately warm with a little pepper, and they form a mild balsamic and cooling article of diet well adapted in cases of warm flushings in the face, and other feverish symptoms, and nervous irritations. When made a principal part of a meal, half a pint of hot milk should always be taken immediately after, which will prevent any coldness or heaviness being produced on the stomach.

In the vegetable class may be enumerated rice, sago, arrow root, asparagus, barley, light puddings, turnips, and potatoes. To these may be added conserve of roses, jellies, and preserves made from ripe fruits, and also subacid fruits of every description, in their proper season. The acid juices of oranges, lemons, grapes, currants, strawberries, gooseberries, plums, and cherries, all tend to quench thirst, and cool the blood, and should be taken in a liberal manner, even though the thirst should not be very urgent. If, notwithstanding this plentiful resource, the strength and spirits of the patient should decline, and something more solid should be required, he may be allowed strong broths, and once a day a little animal food. Such is my conviction of the salutary effects derivable from this course of diet, that I am irresistibly impelled to recommend a regular persistance in it for many months, or even years, if circumstances should render it necessary. It is proper, however, to observe, that patients are not to depart from a full animal diet all at once; the change should be gradually introduced; and be the kind of food what it may, it ought to be taken in small quantities at a time, and the stomach must not on any account be overloaded. All fermented liquors, particularly spirituous ones, must be carefully avoided.

The next points of importance in the cure of consumptions, are a pure uncontaminated air, and a proper degree of exercise on horseback, or in an open carriage. At an early period of consumptive complaints, arrangements should be made, if circumstances permit, for journeying through the country at a proper season of the year, avoiding the unwholesome air of large towns, and if practicable, the patient should spend the winter season in a warm climate. In a long journey, the advantage of a continual change of air, is joined to that of the mind being constantly entertained with new objects, and agreeable scenes. During his exercise, he should most carefully guard against any exposure to cold, which never

fails to determine an undue quantity of blood to the lungs. He should not omit to wear flannel, or fleecy hosiery next his skin, and stockings of cotton, or worsted, in preference to linen or silk. In some instances of consumption, a sea voyage has been productive of considerable advantage, by the constant exercise, the change of air, and the vomiting, which it sometimes occasions.

"Wholesome air, proper exercise, and a diet consisting chiefly of milk and vegetables, is the only course," says a popular writer, "that can be depended on in a beginning consumption. If the patient has strength and sufficient resolution to persist in this course, he will seldom be disappointed of a cure. I have frequently seen consumptive patients, who had been sent to the country with orders to ride and live upon milk and vegetables, return in a few months, quite plump, and free from any complaint. This, indeed, was not always the case, especially when the disease was hereditary, or far advanced: but it was the only method in which success could be expected: where it failed, I never knew medicine succeed." Sydenham affirms that he has frequently cured both tabes and phthisis by horse exercise and long journies, when all medicines had been given in vain, and this not merely in the incipient stages, but when night sweats and diarrhœa, usually the concluding symptoms, had appeared. But when great arterial excitement is present, it may seem doubtful whether exercise should be deemed a well adapted remedy.

Those who cannot have the benefit of travelling at a distance, ought to make use of as much exercise by short rides, or otherwise, as their strength will permit without much fatigue. Swinging is a kind of exercise which may be useful, and severe friction with a coarse cloth, may tend to increase the action of the vessels in the extremities, and to preserve a uniformity in the circulations. In the advanced stage of consumption, exercise can be of little service, and much fatigue may prove detrimental by increasing debility. Dr. Rush has recommended, in the early stage, severe exercise by bodily labour, and even exposure to the hardships of a sea voyage, as having in some instances proved successful.

When a young person of phthisical habit, or whose connexions have died of phthisis, is attacked with hæmoptysis, or affected with symptoms of incipient consumption, even in a slight degree, the alarm should be taken, and the patient advised, without delay, to adopt the most effectual means of arresting the progress of the dis-

ease; if the proper course be persisted in until the patient have reached the thirtieth year of his age, there will be much reason to hope that the consumptive disposition is eradicated, and a healthy condition of the system established. The course to be recommended as most likely to prove successful, is a strict pursuance of the antiphlogistic plan, abstracting blood from the system occasionally, particular attention to diet and regimen, and above all a removal to a warm climate, for several succeeding seasons, to avoid the severity of cold winters. But in whatever climate, he should be particularly enjoined to rise early in the morning, as nothing tends more to weaken the body than perspiration in bed. He may, if necessary, repose on the bed in the course of the day.

The diet and regimen being thus properly accommodated to the disease, the next object should be to apply the most salutary food to the patient's mind; this should consist of amusements, cheerful company, and the most soothing reflections, which exhilarate and keep the mind in the same active state that exercise does the body. The consolations of religion are excellently adapted to compose the mind, when prudently suggested. But all melancholy and gloomy ideas ought, if possible, to be dissipated.

We come now to notice the various medical remedies which are held in the highest repute for the cure of phthisis pulmonalis. The first point which demands attention, is the very important one relative to the propriety of abstracting blood from the general system. The former practice of repeated small bleedings having been carried, probably, to an unwarrantable extent, and without a successful result, has fallen very much into disrepute, and physicians are now supposed, in consequence, to have vibrated to the opposite extreme. It is rational to suppose, that in all cases of tubercles, or of inflammatory affection of the lungs, bronchial vessels, or their investing membranes, it ought to be the primary object to diminish the inflammatory diathesis, and to produce a resolution of inflammation, and thereby obviate a tendency to the process of suppuration. So long, therefore, as the circumstances of the case will justify a hope of effectuating this important object, we may use the lancet with a degree of confidence, as being the best adapted agent to fulfil the indication. The evacuation must in all cases be in proportion to the arterial action, and the system may be subjected to a repetition of bleeding, until it be reduced below the point of morbid irritability; if this can be done with-

out increasing the debility. Instances have been reported in which recourse was had to the lancet every few days, for several weeks or months, with the happiest result. This procedure, however, is to be decided in each case by the physician of discernment, precise observation and experience. He will be guided by the more or less fulness and tension of the pulse, pain about the chest, and irritability of the system, and the quantity of blood should be judiciously proportioned to the strength and other circumstances of the patient.

The inflammatory character of the forming stage of pulmonary consumption, says Dr. Hosack, cannot be too constantly kept in view, and the treatment indicated for the removal of other inflammatory affections of the chest, will be found to be most successful in this more insidious disease. We have in many instances employed blood-letting, with the most happy effects, in many cases of incipient *phthisis*, even where strong hereditary predisposition existed. Indeed, we are induced, from late observations on this subject, to express the opinion that in the commencement of phthisis, as in peripneumony, blood-letting is not sufficiently employed, but is too frequently neglected until the inflammation has proceeded so far that suppuration becomes inevitable. Nor do physicians in general appear to have been sufficiently attentive in describing the symptoms characteristic of the first or inflammatory stage of phthisis, and consequently have been regardless of the active antiphlogistic treatment, which alone can prevent the tuberculous or suppurative stage. Inasmuch as suppuration, or a purulent secretion from the lungs, necessarily implies preceding inflammation, we conceive too early attention cannot be given to the premonitory symptoms which announce the inflammatory stage, but which are frequently so inconsiderable, being seated in the less sensible, the cellular portion of the lungs, that both physician and patient are alike regardless of the present symptoms, and of the consequences to which they lead. Instead, therefore, of trusting to *syrups*, *anodynes*, *pectorals*, *ptisans*, or the *Iceland moss*, to allay the hacking cough and pains in the chest which indicate the first approach of the disease, we earnestly recommend the same active treatment by blood-letting, blisters, and other means of diminishing excitement, as are employed in the treatment of a pleurisy, or any other acute inflammation, and we could add, in confirmation of this view of the subject, many recent cases in which the practice here re-

commended has been attended with the most beneficial results. In one case a young lady was attacked with all the symptoms of the approach of this disease, viz. pain in the chest, frequent cough, the expectoration of matter manifestly purulent, the regularly formed hectic, returning at midday and at night, the circumscribed flush of the cheek, &c. &c. Having lost ten sisters with consumption, she indulged very little hope of relief. Her mother, in the full expectation of losing her only daughter, whose whose attack she considered, in all respects, similar to those that had gone before her, almost hesitated to apply for medical aid; but she at length yielded to the advice of her friends. In this case, as the habit of the patient was naturally full, and her strength not much impaired, the lancet was freely and repeatedly employed. By this alone, her cough, pain of the chest, and expectoration were all sensibly diminished. A large blister was then laid upon the chest, and afterwards occasionally renewed; saline cathartics were prescribed, and an expectorant mixture of the mucilage of gum arabic and tartarized antimony, was administered in divided doses, so as to produce a degree of nausea, and to relax the surface. Its effects were promoted by tepid drinks, consisting of barley water, toast water, &c. Her diet consisted of those articles which are least calculated to add to the excitement of the system. In a word, the case was treated as pure pneumonia, and the result justified the view I have taken of the disease. For, by the remedies prescribed, all affection of the chest had totally disappeared, and the patient is restored to perfect health. This is not a solitary instance of recovery in this disease from the alarming symptoms which have been related. Several others of a similar nature, and followed with the same favourable result, might be added in justification of the practice recommended.

Local blood-letting, by the application of cupping glasses, or a number of leeches to the chest, may in many instances be employed as an advantageous substitute for drawing blood from the system at large. But in the last stage of ulcerated lungs, with purulent expectoration, night sweats and debility, no beneficial effects can possibly be expected from the loss of blood. In every instance of this complaint attended with a fixed pain and straitness about the thorax, blisters are of indispensable necessity, and they should be applied to the parts affected in constant succession, so

as to keep up a perpetual discharge. Vesicating plasters are seldom made sufficiently large; they should be eight by ten, or ten by twelve inches. A plaster of Burgundy pitch, of six or eight inches in length, ought to be worn between the shoulder blades and renewed once a week. A seton, or issues between the shoulders, or ribs, are advisable, and in many cases of incipient phthisis, they have undoubtedly produced very beneficial effects. When expectoration requires to be promoted, strong decoctions of pectoral medicines may be directed, such as liquorice root, with figs and raisins, marsh-mallows, colts-foot, and mullein sweetened with honey. Where there is much feverish heat, particularly in the evening, the patient should take a tea-spoonful of spiritus nitri dulcis, every third hour, in a cup of warm tea of mullein flowers sweetened with honey, and if the cough is very severe and troublesome, two tea-spoonfuls of elixir paragoric may be taken in the same drink at bed time. During the absence of the febrile symptoms, the cascarilla bark, and the bitter pectoral herbs, will be found useful, and less apt to bind the chest than the cinchona bark. Among these are thoroughwort, elecampane, horehound, ground ivy, and Roman wormwood. Both the mineral and vegetable acids, of every description, should be freely used in the patient's drinks; as they serve to cool and abate fever, quench thirst, and check night sweats. For this last purpose, the elixir vitriol should be freely employed in every stage of the disease. The lac ammoniacum, or milk of gum ammoniac, is a medicine of considerable efficacy in promoting expectoration; though the following mixture is equally well adapted to answer the same indication: take of mucilage of gum arabic, or of quince seeds, six ounces, oxymel of squills, two ounces, powder of ipecacuanha, thirty grains, liquid laudanum, thirty drops. A table-spoonful of this mixture may be taken every few hours. If it excite vomiting, lessen the dose, or if vomiting be desired to relieve the lungs from tough phlegm, it may be increased accordingly. It often happens that a little exertion by puking will unload the lungs more expeditiously, and indeed it is more safe and pleasant than continual coughing.

The digitalis purpurea, or fox-glove, has been introduced of late years as a valuable remedy in pulmonary consumption. European physicians of the first eminence, have resorted to the use of it with high expectations, and many of them have made the most flattering

reports respecting its superior efficacy.* It is administered with the view of its peculiar properties in exciting the action of the absorbent vessels, and its singular power in retarding the circulation of the blood, and diminishing the frequency of the pulse. Among our own physicians of high reputation, we are indebted to Dr. Isaac Rand, of Boston, for his valuable observations on digitalis, read before the Massachusetts Medical Society, in June, 1804. In this production he details two cases treated successfully by the use of fox-glove, and closes his address in these words. "I must acknowledge and with pleasure assert, that I have cured more by this, than by all and every other medicine conjoined."

Notwithstanding, however, the high encomiums bestowed on fox-glove, it has not in general answered the valuable purposes which its sanguine advocates have encouraged us to expect. It is by no means to be regarded as a specific, though we have undoubted evidence of its having, in many instances, produced beneficial effects. It should therefore be employed, after venesection, as an auxiliary in the incipient stage, and in the more advanced period, as a valuable palliative remedy, to quiet and soothe the distressing symptoms, and to soften the pillow of death.

The form in which fox-glove is commonly advised in phthisis, is the saturated tincture, to be found in the Am. New Dispensatory, and in the Appendix to this volume; beginning with from ten to fifteen drops three times a day, increasing two drops every second day, until its influence upon the system becomes evident, after which the dose may be increased or diminished, according to the desired effect. On some occasions it is found useful to combine with the tincture one quarter or one third part laudanum; or if the form of pill be more agreeable, take digitalis in powder, eighteen grains, opium in powder, six grains, for twenty-four pills. Give one pill three or four times in a day. Should occasion require, the system may be kept under the influence of fox-glove for weeks or even months, carefully attending to its effects. The prescriber must be aware, that this powerful medicine exerts a wonderful control over the heart and arteries, reducing the pulse from one hundred and twenty, and even one hundred and forty, to fifty in a

* Dr. Thomas cites the following eminent European physicians, as zealous advocates for the use of fox-glove in phthisis: Drs. Fowler, Drake, Mossman, Beddoes, McLean.

minute, allaying at the same time, in a most extraordinary manner, the cough and irritation of the lungs and general system. There is a singular fact to be regarded in the administration of fox-glove; that its action is considerably influenced by the different positions of the patient's body, whether erect or recumbent. In one case of phthisis, after taking this medicine, the pulse was not lessened in frequency when the patient stood erect, being upwards of an hundred. When he sat down it fell considerably, and when lying on his back it fell much more. When sitting, it was reduced to seventy-five, and when lying, to forty. The experiment was repeated many times, and always with the same effect.*

The next remedy to be noticed is sanguinaria canadensis. This, in the hands of several respectable practitioners, has been found, in its effects, a valuable substitute for digitalis, and has obtained some confidence for its usefulness in coughs and consumption. We have the authority of Professors Smith and Ives, of New-Haven, and Dr. W. Tully, of Connecticut, to assert, that blood-root is of considerable utility in the incipient stage of pulmonary consumption, and even in confirmed phthisis. Dr. T. affirms that it palliates the symptoms, and renders essential service to the patient.

The saturated tincture may be taken in doses of from thirty to sixty drops twice in a day, either by itself or combined with a little laudanum. The compound syrup of sanguinaria, mentioned in the appendix, is a preparation in which the virtues of blood-root are conjoined with another plant possessing, it is supposed, considerable efficacy in pulmonic complaints, and which is probably deserving of some attention.† When the cough and other symptoms are very urgent, resort must be had to opium in some form for relief, but not to such extent as to suppress expectoration and increase the dyspnœa.

According to Dr. Duncan, sen. who has published an excellent treatise on phthisis, a valuable substitute for opium may be found in the inspissated juice of the common garden lettuce. From his own experience, he considers this production far superior to the Turkey opium in any form. He avers that of all the medicines which he has employed for allaying cough in phthisis pulmonaris,

---

* Vide Edin. Med. Jour., Dr. Hamilton on Digitalis, and Thomas's Modern Practice.

† *Lycopus Europæus.* Water-horehound, Bugle-weed.

next to opium he has found no article so beneficial as his *lactucarium* or lettuce opium. It does not, like Turkey opium, occasion confusion of head, vertigo, irritation of the skin, sickness, vomiting, &c. nor does it induce a state of constipation. The dose may be about the same as common opium.* Some advantage has been experienced by inhaling the vapour of sulphuric æther, in which the dried leaves of conium maculatum has been macerated; this is recommended by Dr. Duncan in his publication. Hemlock and hyoscyamus have been employed for their narcotic properties, but opium and lactucarium are to be preferred. The muriate of barytes has not on trial gained much confidence in phthisis. The Prussic acid, so highly extolled by many judicious and experienced practitioners, has in the general course of practice disappointed the expectations that had been formed, more failures than actual cures having been the result. This medicine, however, is known to possess in a remarkable degree the properties of a direct sedative, more capable even than digitalis of prostrating the vital powers, and in an over dose, of arresting in a moment the action of the heart and arteries. As, however, we are fully authorized to affirm that some radical cures and many instances of relief have resulted from its use, it is entitled to our regard in the treatment of phthisis pulmonaris. When it is deemed advisable to administer the Prussic acid, it should be recollected that the strength of the particular preparation must be ascertained, as there is a variation in the strength of different preparations. In the administration of this acid, distilled water should be employed in the preparation, as common water will inevitably decompose and destroy its efficacy. Of a formula consisting of 6 or 8 ounces of distilled rose water, and 8 or 10 drops of the acid, a table-spoonful may be given every two or three hours, or two drops of the acid in a spoonful of distilled water, or almond emulsion, every two or three hours during the day, increasing the quantity 2 or 3 drops on the whole portion taken in the 24 hours every day until relief be obtained. Prussic acid may be combined with tonics with real advantage, as with the infusion of cinchona, colomba, cascarilla, or in incipient pul-

* As this article is undoubtedly of some importance in medicine, the reader is referred to the American New Dispensatory, 4th edition, for directions for its preparation. It is but fair, however, to observe, that in the hands of other practitioners, lactucarium has disappointed expectations.

monary conplaints, in a strong decoction of lichen Islandicus.* The late Dr. Beddoes, and other medical men of high standing, have introduced a plan for supplying the lungs with factitious airs and gases, as remedies in the early stage of consumption, and they were reported to have contributed essentially to the relief and benefit of the patients, but the day of their reputation seems to have passed by without a prospect of a revival. There is, however, some reason to believe, that the inhalation of carbonic acid gas, in some cases of incipient consumption, has been the means of mitigating the urgent symptoms and of protracting the fatal period. The lichen Islandicus is very universally employed as a remedy in the early stage of phthisis, and from its mucilaginous and nutritive properties has been held in much estimation. In those instances which have been preceded or accompanied by hæmoptysis, or when from relaxation there is an accumulation of mucus upon the bronchia, occasioning a constant expectoration, this medicine has been found so beneficial that actual cures have been attributed to its efficacy, and in most cases it is a valuable auxiliary. This lichen is usually prepared by first boiling in water to a strong decoction, then, by adding a proper quantity of sugar it is formed into a thick syrup, or jelly, and eaten very freely with milk. It is not improbable that this article has lost some credit by reason of its not being taken in sufficient quantity. *Cooling neutral* salts, through the whole course of this disease, are always useful, particularly sal nitre, ten grains of which should be given frequently, or half a drachm to a pint of milk of almonds or mucilage of gum arabic, with a little laudanum, may be taken in spoonful doses occasionally. In the first stage of consumption, a frequent repetition of emetics has been recommended, which is known to be productive of the happiest effects. The sulphate of copper is held in preference to any other of the class of emetics. When given by itself, the dose is about ten or twelve grains dissolved in two or three ounces of water. The vomiting is speedily excited, and the patient may drink freely of warm water. With due regard to the strength of the patient, the same mode of evacuating the stomach, and relieving the lungs, may with much advantage be resorted to in the second stage of this disease. The method which

* In the American New Dispensatory, 4th edition, will be found the most ample information respecting the properties and character of the Prussic acid.

originated with Dr. Marryat and other English physicians, and was adopted by the late Dr. Senter, of Newport, consists in the exhibition of an emetic, composed of from seven to ten grains of sulphate of copper, and the same quantity of Ipecacuanha, made into pills, to be taken in the morning, fasting, without drinking any thing for some time afterwards. This, which is termed the dry vomit, is to be exhibited every second or third day; it excites vomiting without relaxing the stomach, irritating the intestines, or greatly fatiguing the patient. Dr. Senter assures us that he has restored more persons labouring under hectic fever, from glandular suppuration, by vomiting in this manner, and giving in the intervals as much as the stomach would bear, of Dr. Griffith's myrrh and steel mixture, than by all other medicines he ever read of or tried. "To the good effects of the mode of treatment pursued by Dr. Senter, I can bear," says Dr. Thomas, "ample testimony, having adopted it in many cases of incipient phthisis with infinite advantage." Among the detergent remedies, the *Balsam of Copaiva* stands conspicuous; it is a favorite with some physicians, and greatly praised for its virtues in chronic inflammation of the bronchia and other pulmonic affections. According to Dr. Armstrong, "this balsam exerts in many cases a specific influence over the mucous membrane of the trachea and its branches, it increases the flow of urine, it not unfrequently keeps the bowels regularly open, and sometimes acts upon the skin, causing itching or eruption. Upon the single or combined influence of one or other of these effects its main efficacy probably depends." The dose in which Dr. A. administers it, is unusually large, being from 30 or 40 drops three times a day, and gradually increased until 60 or 80, or even more drops be taken at each time; but where it obviously and shortly lessons expectoration, the cough and irritation, it will seldom be requisite to increase it to the last mentioned dose. Care should be taken that the balsam be pure, neither adulterated nor injured by age. The following is perhaps the best formula for the administration of it.

℞ Bal. Copaiva, ℥j.
Spt. lavend. comp. spt. nit. dul. aa ℥ij.
Laudanum, ℥j. Gum arab. ℥ij.
Water ℥iv. m.

Dose, a table-spoonful morning, noon, and night. Sulphur combined with balsam copaiva has been said to be useful.

The next remedy to be noticed, and probably more deserving of praise, is myrrh. This has long been employed with a good share of success in those cases of hectic fever, which are unattended with any great degree of heat, or thirst, and which do not shew manifest signs of inflammation, myrrh combined with steel, as recommended by Dr. Moses Griffith, has been found a valuable remedy. When administered in the early stage, and duly persisted in, it has demonstrated its superior efficacy, and evinced its tonic and invigorating powers in the most satisfactory manner. Dr. Thomas views this preparation of myrrh as preferable to all other forms, and says it is best to begin with small doses, and it may gradually be increased, the myrrh to 17 or 18 grains, the subcarbonate of potass to ten, and the sulphate of iron to four, for one dose given in the morning, in the afternoon, and at bed time. Dr. T. proposes this myrrh and steel mixture, with a proper dose of tincture of digitalis to each draught, and vomiting twice a week with the sulphate of copper, as the plan which he has adopted in several cases with much seeming advantage. But if preferred, the myrrh and other ingredients may be formed into pills, and the tincture of digitalis given in an ounce of the infusion of quassia or cascarilla.*

The cinchona bark is sometimes recommended in the ulcerative stage of phthisis, but unless the remissions of the fever are very distinctly marked, more injury than benefit will attend its use. But in hectic fever, arising from absorption of purulent matter from abcesses in other parts, and without the presence of inflammation of the lungs, cinchona and the mineral acids must be our chief dependence. The diarrhœa attending hectic fever should be restrained by astringents and opium, or a small dose of calomel and opium may be occasionally interposed. The powerful aid of *mercury* has not been overlooked as a remedy in pulmonary consumption. This, in a few instances, in the skilful hands of the late Dr. Rush, proved decidedly successful. But a mercurial course has not received the sanction of other experienced practitioners, and except in that variety of the disease connected with obstructions in the abdominal viscera, or a venereal taint, this active medicine will be more likely to aggravate than to remove the affection. The warm bath in every stage of phthisis is undoubtedly useful; its di-

* See his Modern Practice.

rect tendency is to excite the cutaneous vessels, to bring a flow of blood to the surface which relieves the oppression on the lungs, and contributes to allay feverish heat and irritation. Whenever the warm or tepid bath is resorted to, it should be accompanied with friction of the body most assiduously employed, and from their combined operation the most favourable effects are to be expected. There is so close a connection between the skin and lungs, that nothing is more important than a uniform temperature of the atmosphere, and the patient who is unavoidably exposed to the inclement winter of a cold climate, should be advised to confine himself in a warm close room, or rather several rooms, the atmosphere of which is regulated by the thermometer. The air should be kept from 62 to 65 degrees. The clothing of the patient should be such at all times as to shield the skin from the action of cold air, so long as he shall remain in a cold or changeful atmosphere. Flannel, fleecy hosiery, and calico are the articles most proper to be worn next the skin, and these should be frequently changed. The inhalation of the fumes from boiling tar or pitch, has recently been introduced into practice, by Sir Alexander Chrichton, and as favourable reports have been made of its salutary effects, it is desirable that it should have a fair and full trial. Dr. Hosack observes that the most decided benefit was obtained from the tonic treatment, particularly from the bitter infusion in combination with the sulphuric acid, and by the use of the fumes of boiling tar. In one case of a most unpromising nature, the latter remedy, in conjunction with the free use of tar water taken from a pint to a quart daily, effected a cure. The patient came into the house greatly exhausted, expectorating at least half a pint of the most offensive purulent matter in the 24 hours. By the use of the last mentioned remedies, this excessive drain was gradually lessened, and in six weeks from the time the patient commenced the use of tar water and the tar fumigation, he was discharged from the hospital perfectly cured. Other trials of the tar fumigation afford less encouragement, and it has in a few instances excited an attack of acute inflammation of the windpipe, and produced a distressing irritation of that part. When the fumigation is employed, the patient must not hastily expose himself to cold air. The method advised by Dr. Thomas for filling a room with the vapour of tar is, to place the vessel containing it over a spirit lamp, let it boil slowly, but not burn, and the fumigation should be repeated every three hours.

The Seltzer water is known to possess a peculiar power of allaying feverish irritation, and has done much service in slow hectic fevers, attended with flushings and profuse night sweats. It checks the violence of perspiration as well as the discharge from the lungs, composes the patient at night, and improves the appetite. It mixes well with milk, and is thus used with advantage by hectic patients, or it may be taken with sugar and wine. The acetate of lead joined with opium, has a favourable tendency in restraining the morning perspiration, and also a spitting of blood.

Having taken a view of the numerous remedies which from time to time have been recommended for the cure of pulmonary consumption, I close with the remark, that it is in the incipient stage only that a cure of this most cruel disease can ever be expected; in the last stage, the healing art is incompetent to any further assistance than to palliate the distressing symptoms, to sooth the patient's mind, and to smooth the path of death. It has in too many instances happened that in a confined phthisis, when the body is emaciated, the mind debilitated, and the spirits desponding, the miserable patient is advised to a change of climate; all the comforts of home and the cheering attentions of friends are abandoned, a long journey or a sea voyage is encountered, and the patient is introduced to the society of strangers; the consequence almost constantly is, that the scene is either closed abroad, or he returns worn down with fatigue and disappointment, under a rapid increase of the fatal malady. If a change of climate cannot be accomplished during the incipient stage, it should on no account be recommended at an after period. It is a painful consideration that numerous instances occur of young females labouring for months under a severe cough and other complaints, in consequence perhaps of a cold, contracted at a critical period, unconscious of any impending danger, while the insidious disease is making imperceptible approaches, and fastening its hold on the constitution. No medical advice is requested, the unfortunate patient being flattered and deluded with the vain hope, that a few trivial medicines, without any regard to a proper regimen of diet, may be the means of restoring the desired state of health; until at length a severe pain and oppression about the chest, with a more distressing cough, and a copious expectoration of purulent matter, attended by hectic fever and night sweats, excite alarm, and arouse the unhappy patient or friends to a sense of danger. A physician is

now consulted, but the disease has advanced to that stage, when, alas! it is deemed irremediable. Thousands have in this manner trifled away their lives, which by early care and attention, might have been preserved as ornaments to society, and blessings to their friends. The admonition of the poet, therefore, cannot be too frequently repeated, that

——————"For want of timely care
Millions have died of medicable wounds."

GLOSSITIS.

INFLAMMATION of the tongue is certainly a disease of rare occurrence, and not often noticed by authors; but Dr. Hosack has seen it in two instances to occur as an idiopathic disease, and he has been induced to give it a generic place in his nosological arrangement, and to detail the circumstances of those cases which have fallen under his notice. The first case was that of Mr. J. Hamilton, a respectable citizen of New-York. This gentleman, on a journey in July, 1817, exposed to a hot sun, was very much fatigued as well as heated. At night he imprudently washed himself in cold water, and lodged in a room exposed to an open window; he awoke in the night much oppressed with a considerable degree of soreness about the throat. His complaints gradually increased, on the third day his tongue began to swell, and in a little time so much enlarged in all directions that it pressed against the roof of his mouth, and was even protruded beyond the teeth; he was unable to close his mouth or to articulate; his swallowing was attended with much difficulty and distress. Not only the tongue, but the sublingual glands and those at the root of the tongue, with those of the neck and jaw, all became very much enlarged; his whole neck from the jaw to the clavicles became very much distended, hard, and almost unyielding to pressure. His attending physician, Dr. Cooper, urged the necessity of immediate blood-letting. This was unfortunately resisted by Mr. Hamilton, upon the ground that he had been subject to gout: had he submitted to the first advice of his physician, he probably would have been immediately relieved. An active purge was given, a blister was applied to his neck, and a proper gargle directed, with the use of such drinks as were best

calculated to allay the existing inflammation. His symptoms all increased in violence, his oppression was now so great that he was unable to lie down. On careful examination a tumor was discovered under the tongue, indicating suppuration; a lancet being passed into it, a small discharge of a very offensive purulent matter followed, which afforded some relief. Not long after, a slight delirium ensued. His face became of a dark red colour, the blood being evidently retarded in its return from the head by the distention of the neck and neighbouring parts; his pulse was frequent and full, his respiration more hurried than natural and somewhat labored, occasionally attended with effort to throw off the matter excreted about the throat; his skin was moist; the discharges from the mouth were very offensive, and chiefly consisted of a dark coloured slimy matter, with some slight appearances of pus; now and then he became exceedingly restless, rose from his seat, walked for a few minutes, and returned to repose. Although eight days had elapsed since his attack, it was advised in consultation to take from him twelve or fourteen ounces of blood, for the purpose of lessening the pressure upon the brain, and a saline carthartic was directed. As his heat of skin was increased, his face and limbs were also directed to be frequently sponged with tepid vinegar and water. By the operation of his medicine and the loss of blood, he was in some degree relieved; but upon the approach of evening all his symptoms were sensibly renewed with increased violence. A few grains of ipecacuanha being administered, he vomited two or three times, and was followed by a discharge of phlegm and mucus from the fauces and lungs. The tongue became much cleaner and was much diminished in size; insomuch that he could now bring the teeth of the two jaws together—he passed a more comfortable night, being enabled to get some sleep in a horizontal posture, which he had not done during his illness. The next day the circumstances just mentioned and the suppuration that appeared, gave some encouragement of a favourable issue; but the tumour was still hard and unyielding, his breathing remained very much oppressed, his circulation was yet active, more or less of coma and aberration of mind occasionally appeared. A large blister was now applied to the throat and neck, and a gargle consisting of yeast, borax and honey, directed to be made use of every hour. His drinks were continued as before, with an occasional cup of panada, and chicken soup, prepared with a large proportion of vegetables: his blister drew

well, and he passed the early part of the day with more comfort than usual: in the afternoon his symptoms were sensibly aggravated; he was exceedingly restless, frequently walking about his room, his pulse increased in frequency, his breathing more difficult, with some tendency to diarrhœa. His bowels were readily composed by an anodyne; his nourishment was rendered stimulant by the addition of wine, and a decoction of bark and snake-root was administered; his restlessness increased in a very great degree; he continued to walk from one chamber to another, and from thence through the hall the whole evening and night, his muscular powers remaining unimpaired, until within a very few minutes of his dissolution; analogous to those remarkable cases of yellow fever in which the patient may be almost said literally to walk to his grave, he laid down and breathed his last a few minutes before one.

The second case of glossitis which fell under the observation of Dr. Hosack, occurred in the New-York hospital, in the summer of the year 1822. The symptoms were very similar to those just detailed in the case of Mr. Hamilton. By means of copious bleeding, deep scarifications in his tongue, and blister to his throat, and antimonials with a saline carthartic, the disease was entirely removed in a short time, and by the continuance for a few days of the antiphlogistic treatment, the tongue was reduced to its previous size.

TONSILLITIS, OR INFLAMMATORY SORE THROAT, OR QUINSY.

This is an inflammation affecting one or both tonsils, and often extending through the whole of the mucous membrane of the mouth and throat, so as to interrupt the speech, and the power of deglutition or swallowing, and of respiration.

This disease is most frequently occasioned by exposure to cold, either from sudden vicissitudes of weather, sitting in wet rooms, having wet feet, drinking cold water when the body is over heated, or otherwise giving a sudden check to perspiration. The suppression of accustomed evacuations will also produce this disease; and persons having experienced a few attacks are peculiarly liable to returns of it. The spring and autumn are the seasons in which it most frequently takes place, and it is most incidental to persons of a full and plethoric habit.

The inflammatory sore throat, or quinsy, is manifest from the redness, tumour, and heat of the tonsils, rendering deglutition painful, respiration difficult, with dryness of the throat, difficult excretion of mucus, and a quick, hard pulse, and other symptoms of fever. It may be distinguished from the malignant ulcerous sore throat, by the strength of the pulse, the greater difficulty of deglutition, the absence of ulcers in the throat, and the accompanying fever being inflammatory, and it differs from that also in not being contagious. The inflammation begins, for the most part in one tonsil, and soon extends to the other, and to the uvula and parts adjacent. If both sides of the fauces or throat be affected, the pain and difficulty of swallowing become extreme; and if the inflammation extend itself to the muscles about the top of the windpipe, and the parts are much tumefied, the patient will be in some danger of suffocation. When the external parts of the throat are puffed up, it is considered as a favourable sign.

The singular fact that more pain is experienced in swallowing liquids than solids, is accounted for by a greater portion of muscular fibres being employed in the former than the latter.

In the treatment of this disease, the same method which is proper in other inflammatory affections of a local nature must be adopted. Both food and drink should be of the lightest and most simple kind. The patient ought to be kept quiet, and avoid speaking as much as possible; his head should be raised while in bed, and a moderate perspiration should be encouraged. His feet and legs must be often bathed in warm water, and his bowels gently deterged with Glauber's salts when required. It is important that the neck be kept warm, and a double flannel, well moistened with the volatile liniment, if often repeated, in conjunction with the means above mentioned, will frequently remove slight affections of the throat, and render further expedients unnecessary; or a blister may be applied to the part with advantage. An emetic given in the early stage has been found highly efficacious. The steam of warm water, or of the infusion of hops, received through Mudge's inhaler, or from a common funnel, is extremely useful. A poultice of hops, prepared with the addition of vinegar, and inclosed in a thin cambric cloth, applied to the throat, is also of great use in any stage of an inflamed throat, whether incipient, or proceeding to suppuration. All irritating gargles, in the first stage, have a tendency to aggravate the inflammation; but when

the mouth is dry and parched, and the tonsils much inflamed, considerable relief may be obtained by dissolving in the mouth a few grains of nitrate of potass, and allowing it to lodge on the parts affected, or leisurely swallowing it. After the inflammation has subsided, the use of gargles is attended with the most beneficial effects, by attenuating the viscid mucus which clogs the mouth and throat, and rendering it more easily removed. An infusion of red rose leaves sweetened with honey, and acidulated with the sulphuric acid, of such strength as the patient can easily bear, will answer the desired purpose. Another preparation of this kind may be made of sage tea, with a little vinegar and honey; and it may be improved by the addition of the jelly of black or red currants. With some such preparation the mouth should be frequently cleansed, and if necessary, it may be injected by means of a syringe. When astringent gargles are required, nothing can be more useful than an infusion of marsh-rosemary root. The application of cold water to the throat, both externally and internally, has sometimes been found beneficial.

In some instances, the inflammation and fever will run to such height at the beginning, as to require bleeding from the arm or jugular vein, the quantity and repetition of which must be determined by the urgency of symptoms, and strength of the patient. After this evacuation, leeches ought to be applied to the throat. The volatile liniment ought also to be employed as mentioned above, and should it not prove effectual, a blister must be applied round the throat in its stead. By a diligent employment of the means above recommended, the inflammation will, in most cases, be dissipated, and a suppuration prevented. If, however, the inflammation cannot be resolved, and the formation of an abscess is indicated, we ought to hasten the suppuration by the frequent application of warm fomentations, and emollient poultices to the throat, and directing the patient to inhale the vapour from warm milk and water, through an inverted funnel, several times in a day.

When the abscess has progressed to a ripened state, if it break not spontaneously, nor by the efforts of the patient, it must be opened with a lancet. If in any instance the tumour becomes so large as to obstruct the passage of food into the stomach, it only remains to afford the patient sustenance by nourishing clysters, made of broth, thin jellies, gruel, and milk, by which means he may be supported until by the breaking of the abscess, the passage

for food is restored. The size and pressure of the tumour may be so increased as to obstruct the passage of the lungs, and endanger the life of the patient by suffocation, in which case bronchotomy, or making an incision into the windpipe, must be performed, if an experienced surgeon can be procured; but fortunately there occur very few instances in practice where recourse to this operation is necessary.

There is sometimes an obstruction and enlargement of the glands of the throat, which occasion a difficulty of swallowing, unattended with inflammation, which may be soon removed by the application of the soap liniment or opodeldoc, and keeping the neck warm.

Persons who are subject to inflammation in the throat, should carefully observe regularity and temperance in living, and should occasionally carry off the superabundance of humours, by purging and other evacuations. They ought likewise to guard well against cold, and avoid whatever is of a stimulating nature in diet. Drinking cold liquor immediately after violent exercise, is very prejudicial; as is likewise a sudden exposure to cold air, after any great exertion of the throat by speaking or singing.

The glands of the throat sometimes continue swelled after an inflammation, and acquire a degree of hardness which is difficult to be removed. No attempt should ever be made to resolve these tumours by any stimulating application. The throat should be kept warm, and the fauces gargled twice in a day with a decoction of figs or barley, sharpened with vinegar, leaving the swellings to dissipate by time.

PHARYNGITIS.

This is an inflammation of the pharynx, accompanied with painful and difficult deglutition; respiration not materially affected. It is of the same nature as tonsillitis, is produced by the same causes, and requires a similar treatment.

ŒSOPHAGITIS.

"INFLAMMATION of the œsophagus, attended with a sense of heat and burning; painful and difficult deglutition, food frequently rejected, and with violence." The pain is fixed behind the sternum in swallowing only, and the breath is not affected. The complaint is so uncommon, and so seldom attended with danger, that it is not often noticed by authors. The cure is easily effected by swallowing slowly nitrous and mucilaginous medicines.

PERITONITIS, OR INFLAMMATION OF THE PERITONEUM.

THIS affection occurs as a symptom in puerperal fever, and is so closely connected with it that an attempt to draw the line of distinction between them might be more embarrassing than useful in practice. But males are not unfrequently the subjects of it, being produced by cold when the body has been heated by severe exercise. According to Dr. Cullen, peritonitis is not only an inflammation affecting the peritonium lining the cavity of the abdomen, but also affecting the extensions of this membrane in the omentum and mesentery. This disease is known by a pain in the abdomen, increased by pressure or exertion of the body. It is to be distinguished from enteritis by the pain being much more superficial in the former than in the latter case, and generally not accompanied with sickness or disturbance of the intestinal canal. Dr. Armstrong, is a warm advocate for copious bleeding, followed by large doses of opium for the purpose of subduing inflammation of the abdominal viscera. He carries the point to a greater extent than has been heretofore practised. In acute inflammation of the peritoneal coat of the stomach or bowels, and of acute peritonitis, and hysteritis, as soon as called in the first stage, Dr. A. directs bleeding to complete relaxation to approaching syncope, whatever may be the quantity of blood necessary to produce that effect, for it is to the effect, and not to the quantity which we look for relief in such formidable cases. Immediately after the patient recovers from the faintness, three grains at least of good opium in a soft pill are given. The effects of the opium, thus given, are to prevent a subsequent increase in the force or frequency of the heart's action, and a return of the abdominal pain, while it induces a tendency to quiet sleep and copious perspiration. If in three or four

hours after the administration of opium, there be pain or pressure in any part of the abdomen, with a hot skin, and quick jerky pulse, the patient is again bled in the same prompt and decisive manner as before, and carried to complete relaxation; and two grains of opium, with three or four grains of calomel are exhibited in the form of a pill, as the faintness disappears. The patient is left to repose in quietness, and a free perspiration most frequently succeeds. A third venesection is rarely requisite, but after the expiration of five or six hours, if pain and fever still exist, the operation should again be performed as before, and one grain of opium with two or three of calomel given almost immediately afterwards; while half a grain of the former with two grains of the latter, may be repeated every four hours till sleep and general perspiration be induced. After this active mode of proceeding, the mildest laxatives with simple injections of warm water, frequently repeated, will, in general, subserve all the desired purposes. Dr. Armstrong does not advise the use of opium when the tongue is in an unnatural state of dryness; it is only in case of a moist tongue that it should be administered. It is an erroneous idea that opium constipates the bowels in cases of abdominal inflammation; it produces a contrary effect, by relaxing the spasmodic constriction, it actually tends to promote the discharges from the bowels. With the view of removing any remains of topical inflammation, leeches may be applied, and also large folds of flannel, wrung out of a decoction of chamomile flowers and bruised poppy heads, should be applied to the umbilical region, and confined there with a roller until the heat is expended.

GASTRITIS, OR INFLAMMATION OF THE STOMACH.

An inflammation of the stomach is an acute disease which is attended with great danger. It may be produced by drinking too freely of cold liquors when the body is very hot, from acrid or poisonous substances taken into the stomach, as arsenic, corrosive sublimate, the mineral acids, and sal nitre, in a large dose, as sometimes happens by mistake. One fatal instance occurred to me in practice, in a young woman, which was occasioned by eating a large quantity of unripe damsons and apples. It may proceed from drinking too much ardent spirits, from a surfeit, a stoppage of perspiration, repulsion of the gout, and violent passions.

Among the most powerful causes of this disease is a sudden transition from cold to heat, as passing from a cold atmosphere into a warm room. Gastritis is divided by Dr. Cullen, and followed by other authorities, into two species; the phlegmonous, and erysipelatous. Phlegmonous gastritis is known by a violent burning pain in the region of the stomach, with extreme anxiety, restlessness and tossing about of the body; excessive heat and a continued painful vomiting of every thing swallowed, a great soreness, tension and fulness of the stomach with flatulency and most distressing thirst. The pulse is quick, hard and contracted. Great loss of strength, faintness, short and interrupted respiration, cold clammy sweats, hiccoughs, coldness of the extremities, and an intermitting pulse are the sure harbingers of death. I have known a temporary mania and hydrophobia attended in one instance, in a delicate lady, who recovered. A disease so fraught with danger requires the most prompt exertion in our power, as a very few days will decide the point between life and death. Hence we are told that, "the cure of gastritis is to be attempted by copious and repeated bleedings, employed at an early period of the disease, not regarding, or being intimidated by the smallness of the pulse, as it usually becomes softer and fuller after the operation; nor by extreme debility, syncope, or convulsions, for all these are the effects of the disease. Draw off blood, therefore, every four or six hours, in such a quantity each time as the action of the heart will bear, and continue the practice as long as the characteristic symptoms of inflammatory disease remain. After venesection, topical bleeding, by means of several leeches over the stomach, or scarifying and cupping, may also be immediately adopted, if necessary."* But with deference to superior judgment, may we not hesitate before we adopt extremes in practice without discriminating between the feeble and delicate and the robust and vigorous constitution. In the former, the milder remedies will sometimes suffice, but in the latter when the disease appears in its acutest form, a more vigorous discipline becomes requisite, nor will it be denied that cases of gastritis have been presented in which the boldest practice could not be deemed justifiable or expedient. A large blister should be applied to the region of the stomach, and continued without intermission for a length of time. The feet and legs should likewise

* Thomas's Modern Practice.

be frequently bathed in luke warm water, and the whole body immersed in the bath. Clysters of infusion of chamomile flowers and linseed, or mallows, with the addition of two drachms of sal nitre to each, ought also to be often administered; they ought also to be large in quantity, that they may act not only as laxatives, but as fomentations to the bowels and stomach. In regard to purgatives, we conceive that calomel, in the form of pills and followed by a solution of Epsom salts, either alone or with manna, are to be considered as by far the most eligible and the best adapted to the state of the stomach. Castor oil is probably the next article best calculated to answer the desired purpose. From the great propensity of the stomach to reject every thing taken down, very little can be expected from internal remedies, and every heating and irritating substance must be most carefully avoided. The food taken should be of the most mild diluent nature, such as barley water, beef tea, and chicken broth in small quantities at a time. Demulcent and diluting drinks, moderately warm, may, however, be tried; as may likewise small doses of nitre with spermaceti, or some mucilage of gum arabic, or of the slippery elm bark, to which may occasionally be added a few drops of laudanum. But opiates may be given in clysters when the vomiting has a little abated, with great advantage; a drachm or two of the tincture of opium, in half a pint of barley water, should be often injected; and with the view of affording the patient some nourishment, a gill of warm milk added to the clyster will be highly useful. If the disease cannot be resolved by the means above mentioned, mortification and death must ensue, and this fatal tendency may be known by the sudden cessation of the pain; by the pulse continuing its frequency, but becoming weaker, and by delirium, hiccoughs and other marks of increasing debility.

ENTERITIS, OR INFLAMMATION OF THE INTESTINES.

This acute and very hazardous disease may be occasioned by the same causes which were recited when treating of inflammation of the stomach. It may arise, also, from obstinate costiveness, cold, fever, worms, hard indigestible aliments, drinking stale and windy malt liquors, sour wine, cider, &c. Very high seasoned and stimulating food sometimes gives rise to it, and it is often pro-

duced by wet feet, wet clothes, and whatever obstructs perspiration. Another cause of this complaint, is what is termed an intrososception, or running in of one part of a bowel into the other, and there confined by some stricture or adhesion. It may likewise be occasioned by a rupture, and by scirrhous tumours of the intestines.

An inflammation of the intestines is accompanied with nearly the same symptoms as inflammation of the stomach. It commences with slight wandering pains in various parts of the abdomen, which soon becomes fixed about the region of the navel, and is excessively violent, with a burning sensation of heat; the belly being swelled, tense, and extremely tender to the touch; the fever is acute, the tongue is parched, and of a dark brown colour, and the thirst is unquenchable. There are frequent evacuations, and urgings to vomit, and the efforts are sometimes so violent, that the motion of the bowels is inverted, and even the excrements are discharged by the mouth. When this last symptom occurs, it is called *iliac passion*. The urine is discharged in small quantity, and with pain and difficulty; and the costiveness is often so obstinate, as not to yield to the greatest efforts. The pulse is small, hard, and quick, frequently becoming at last irregular and intermittent; and the prostration of strength, as in gastritis, is in proportion to the violence of the symptoms. If efficacious remedies are not early employed, or do not succeed, the disease sometimes ends fatally in ten or twelve hours, and almost always before the third day; so that there is seldom any suppuration. If the pain soon changes its situation, and becomes less violent; if the vomitings lessen, and stools are produced, and the heat abates, it may be expected that a resolution is about taking place. But if the pain increases, and keeps constantly on one point, and the belly becomes more tense and tender; if no stools are obtained, and the vomiting continues, and fœcal matter with the clysters is thrown up, it is too evident, that little ground for hope remains; and when a sudden cessation of pain, hiccoughs, clammy sweats, fallen countenance, convulsions, and coldness of the extremities occur, the fatal termination is near at hand, by a mortification of the intestines.

In the cure of this dangerous complaint, nothing is more important than copious bleeding, and this should be repeated according to the urgency of the symptoms, until the pulse becomes soft. As

to the bold and energetic practice of Dr. Armstrong in acute inflammation of the abdominal viscera, already noticed under the head of peritonitis, page 385, it must be submitted to the serious consideration of the attending physician, whose judgment and skill will be called into exercise on similar occasions. I can only observe, for the encouragement of the timid and inexperienced practitioner, that the process of Dr. A. appears to be extremely well adapted to the indications of cure, and has received the cordial approbation of many judicious medical men. Topical bleeding, either by cupping glasses, or leeches, may also prove advantageous, provided the patient can bear their application; and blisters over the abdomen are of essential importance, and ought, on no account to be omitted. The patient should be placed up to his breast in lukewarm water, or emollient fomentations must be most thoroughly applied. His feet and legs should be often bathed, and mild softening clysters, consisting of milk and water, barley water or gruel, as they serve the purpose of internal fomentation, ought to be frequently injected. Having thus far attempted to reduce the inflammation, the next point is, to endeavour to procure an evacuation of the contents of the bowels, by the use of purgatives of the gentlest kind; among which, no one, perhaps, is to be preferred to castor oil, provided it can be retained on the stomach; it may be rendered less unpleasant, by combining it with mucilage or yolk of egg. Another mild, but very useful laxative, may be formed by dissolving one ounce of Glauber's or Epsom salts with an ounce of manna in a pint of water, a tea-cup full of which may be taken every half hour, till the desired effect is produced. It may be proper to give small doses of laudanum occasionally, to appease the vomiting during the employment of the solution. If liquid purgatives cannot be retained, or should fail of producing the desired evacuation, we must resort to those of the solid kind, of which calomel unquestionably is the most eligible, and when conjoined with opium, the compound fulfils the double effect of an antispasmodic and aperient. A pill of ten grains of calomel and two grains of opium, repeated at proper intervals, say every three or four hours, will seldom fail to effectuate the object in view. Should the vomiting still continue to distress the patient, blisters must be repeated over the abdomen, or applied to the upper part of each thigh; yeast, or the saline draught in the act of effervescence, with a few drops of laudanum, will be likely to mitigate the

complaint. Fomentations, with decoctions of chamomile flowers, wormwood, and peppermint, to the stomach and bowels, are always useful; and the irritable state of the stomach may be appeased by equal parts of new milk and limewater, given in spoonful doses. In some instances, when the inflammatory excitement has subsided, an emetic of ipecacuanha and tartarized antimony has been known to produce the most substantial benefit. The fumes of tobacco injected into the rectum, act with a favorable tendency, by relaxing the spasmodic stricture, and thereby promoting the alvine evacuation.

A very erroneous supposition sometimes prevails, that the constipation in this disease should be the first and chief symptom to be attended to, giving it the vulgar name of *stoppage;* they immediately have recourse to active purgatives, and persevere in their use, to the great hazard of the patient. Another error is sometimes committed, by mistaking this disorder for colicky pains, when spirituous and other heating liquors are administered, which greatly tend to increase the inflammation and the real danger. The fever, with quick and hard pulse, and great tenderness of the abdomen, will sufficiently distinguish this disorder from colic. In regard to food in this disease, it is obvious that very little can be taken, and nothing but the most bland and mildest liquids should be swallowed. After the acute stage of this disease is over, we not unfrequently meet with a swelling or induration between the crest of the right ilium and the umbilicus, which seems to be the seat of the pain, is tender to the the touch, and produces great uneasiness when the contents of the alimentary canal pass through this part.

The difficulty undoubtedly proceeds from coagulable lymph effused among the intestines, and from inflammation in a subacute degree. The cure is effected by cupping, or applying leeches to the part, or by frequently bathing it with some cold liquid, as diluted alcohol, camphorated spirit, &c. Perhaps the following may be preferable to any thing else. Take of the water of acetite of ammonia and of pure water, each four ounces, brandy, one ounce, mix and place them in a cool situation. Keep flannels wet in this preparation constantly applied to the part, and renew as often as they get warm. Experience has proved both the efficacy and safety of this course. The danger of attempting to produce suppuration will appear obvious to every one who reflects on the nature of the parts concerned. If, however, suppuration should

take place, contrary to all our wishes, as soon as the circumstances will admit, we must proceed to make an opening for the passage of the matter.

From the consideration of the obstinacy of this dreadful disease, and its frequently fatal termination, it must be obvious, that people cannot guard with too much caution against the various causes by which it is produced; among these are long continued costiveness, sour unripe fruit, and sour or very stale liquors. The danger of wet clothes should be particularly avoided, and especially wet feet, which, of all the various ways of catching cold is the most pernicious to the bowels.

Such is the imminent and pressing danger attending these acute diseases affecting the vital organs, that the physician should feel it as a duty to be present with his patient during the most critical period, to watch the effects of the remedial applications, and the various changes in the disease, recollecting that the operation of all medicines is powerfully modified by the condition of the system at the time of their administration, and that the slightest error may decide the point of life or death.

In our circle of practice we become familiar with cases of obstinate constipation of the bowels, unattended with active inflammation at the onset. This complaint probably originates in a torpid state of the liver, or a deranged condition of the biliary organs, or by some indigestible article of food. I have met with one very obstinate case occasioned by eating freely of tamarinds and swallowing the stones; it was about eighteen days before the stones were evacuated. In the course of the disease, a degree of inflammation and of spasmodic constriction are induced; the digestive organs are deranged, the abdomen becomes tumefied and painful, loose and watery stools are on some occasions discharged, and a troublesome vomiting ensues. But such is the unyielding intestinal obstruction as to require a perseverance in the use of the ordinary cathartics for fifteen or twenty days, for its removal. The general course of treatment is, when the arterial action is considerably excited, to abstract the requisite quantity of blood by one or two operations, to employ the usual topical applications, and to administer calomel to the point of salivation. When calomel produces ptyalism, it is shortly after followed with alvine evacuations. To abate the spasm, opium is to be interposed, and calomel is aided by other purgative

medicines and enemata of various compositions. Tobacco smoke injected into the rectum, and dashing cold water upon the lower extremities, are also among the remedies recommended. This course was regularly and faithfully pursued with a patient in the hands of Dr. Hosack, without success, until, on the 20th day from the commencement of the course, when the patient had taken four hundred and eighty grains of calomel, in doses of from ten to twenty grains, he complained of a soreness of his gums, and a rumbling in his bowels, with an inclination to go to stool. The next day the evacuations became frequent, and were extremely fœtid. No further use of purgatives were necessary, and health was soon restored. Dr. H. has since improved upon the method of treatment in this species of constipation, in which he is confirmed by the soundest experience. After venesection, when that operation appears requisite, his chief dependence is upon emetics of ipecacuanha and tartarized antimony. If the dose is promptly effectual, in its operation, he repeats the administration until the curative indications are accomplished. In his detail of numerous examples of this successful method, we are furnished with the most unequivocal evidence of the superior efficacy of emetics over all other means of cure. Physicians in general, therefore, will, it is presumed, adopt this successful plan of treatment of this disease.

HEPATITIS, OR INFLAMMATION OF THE LIVER.

Inflammation of the liver is more frequently met with in warm climates, than in cold or temperate ones. It commences in general with a rigour, or shivering, which is succeeded by febrile heat with pain, either acute or dull, under the short ribs of the right side, increased by pressure upon the part, and frequently extending to the collar bone and shoulder. There is a difficulty of laying on the left side, shortness of breath, a dry cough, and sometimes vomiting of bilous matter attended with hiccoughs. The symptoms vary in this disease according to the degree of inflammation and the particular part of the liver which happens to be affected. Sometimes the pain is so inconsiderable, that the disease progresses to a dangerous state before it is even suspected. There is a loss of appetite, great thirst, and costiveness; the urine is of a deep saffron

colour, and small in quantity ; the pulse strong, hard, and frequent ; the skin is hot and dry ; the tongue covered with a white or yellowish fur, and in some, it is attended with yellowness of the eyes. This disease may be distinguished from pneumonia, or pleurisy, by the pain being less violent, and extending up to the shoulder, the pulse not so hard, by the sallowness of the countenance, by the cough being unaccompanied by expectoration, and commencing at a later stage of the disease, and a less degree of labour in breathing.

The causes which may produce this disease, besides those which give rise to other inflammations, are certain passions of the mind, violent exercise, any thing that suddenly cools the liver after it has been much heated. Too free use of hot spicy aliment, and strong wines ; but more especially spirituous liquors. Gall stones obstructing the passage of the bile may sometimes produce this disease.

Inflammation of the liver, like that of other parts, may terminate by resolution, suppuration, gangrene, or scirrhus ; but in this climate, a suppuration or gangrene, is not a frequent occurrence. A resolution is often effected by some spontaneous evacuation, as a bleeding at the nose, or the bleeding piles. Sometimes it is accompanied by a bilious looseness, a profuse sweating, or a discharge of urine depositing a copious sediment. When the disease ends in suppuration, the matter of the abscess may be discharged by the biliary ducts, or if that part of the liver most contiguous to the abscess, has formed adhesions with some neighbouring part, the matter may be discharged by the different outlets with which this part is connected, thus, it may be coughed or vomited up, or the matter may work its way outwardly by bursting through the integuments, or a passage be made for it by incision. But if the abscess should burst into the cavity of the abdomen at large, death will be the consequence.

It frequently happens, that the inflammatory symptoms at the beginning of this disease, are not sufficiently alarming to arrest the attention ; but as soon as the existence of the disorder is ascertained, no time should be lost in drawing from the arm a proper quantity of blood, and though the pulse should not be remarkably hard, a repetition of the operation must be determined by the degree of pain and fever, with which the patient is attended. After general bleeding in acute hepatitis, leeches may be employed, fomentations, softening clysters, bathing the feet, and the whole antiphlogistic

plan should be rigorously pursued as directed in other inflammations. A large blister should next be applied over the region of the liver, and mild laxatives of Glauber's salts and manna, preceded by a few grains of calomel, administered. As diuretic medicines have been found useful in this complaint, about twenty grains of sal nitre, or a tea-spoonful of the spiritus nitri dulcis, may be given in a cup of tea drink every three or four hours. A tendency to sweat may be encouraged, by drinking plentifully of warm diluting liquors, and repeated doses of the saline mixture, with tartarized antimony. Should a looseness occur, it ought not to be checked, unless the evacuations be so considerable as to weaken the patient, as loose stools often prove critical, and carry off the disease. When all our endeavours to subdue the inflammation, fail, and an abscess is about forming in the liver, which is marked by the pulse becoming softer, frequent shiverings, abatement of pain, and a sensation of weight about the part affected, we must endeavour as much as possible to promote the suppuration. For this purpose, the usual application of poultices, and emollient fomentations must be immediately made, and duly persisted in, until the contents of the abscess can be discharged by an incision, through the external teguments by some skilful operator. The opening should be made in the most depending part of the tumour, where a fluctuation is perceived. Having with a scalpel, cut through the external teguments, and reached the abscess, it may be pierced with a trocar and the matter gradually evacuated. If the liver has formed such adhesion to the peritonæum, as to prevent the pus from falling into the cavity of the abdomen, the life of the patient may be preserved. The Peruvian bark, in doses of half a drachm in powder, should be given four or five times a day, during the formation of the abscess, and after it is opened, in order to support the strength, and to guard against the effects of absorption of the purulent matter. The patient is to be supported with light nourishing food and cooling diluting drinks, carefully avoiding all heating substances as in other inflammations.

If the pain and swelling do not yield to the antiphlogistic plan, which has been advised, and the inflammation should terminate in induration, and scirrhus, the patient may survive for many years, provided he pay proper attention to his diet and mode of living. He ought in this case, to use less of animal than vegetable food; avoiding high seasoned meat and strong liquors.

There is likewise a chronic inflammation of the liver, in which the symptoms are more moderate, and the disease is slow in its progress, often continuing for many months, and at last terminating in a very considerable suppuration. The patient complains rather of a sense of weight than of pain, and the fever occurs in paroxysms or fits, somewhat resembling the attacks of an intermittent, and the liver on examination externally, will often be found to be considerably enlarged.

In both chronic inflammation and scirrhous affections of the liver, a moderate course of mercury will be found of singular efficacy. Mercury may be introduced into the system, by rubbing in about one drachm of the ointment in the neighborhood of the part affected, or in the groins every night, until some very obvious effect is produced on the constitution; or till the swelling and hardness are dispersed.

If an internal course should be preferred, about two grains of calomel and half a grain of opium, every night, will probably effect the desired purpose without carrying it to the extent of complete salivation. When it is desired to combine antimony with mercury, the Plummer's pills may be considered as the best form. During the course, it will be advisable to exhibit a mild laxative of neutral salts, every third or fourth day. It will in some instances, perhaps, be necessary to continue this course for five or six weeks, observing at the same time a proper regulation of diet, consisting chiefly of light puddings, of rice or arrow-root, with milk and vegetables, meat broth, and farinaceous substances. Salted meat, greasy substances, and all spirituous liquors, must be particularly avoided. Recently, the nitric acid has been used in chronic affections of the liver, and has received much commendation as an auxiliary remedy, during the employment of mercury. It is even by some made a substitute for that medicine, especially in scorbutic habits. The method of giving the acid at first, is to mix one drachm with a pint of water, sweetened with simple syrup. This quantity is to be taken at different times in the course of twenty-four hours, through a glass tube or quill, to prevent the teeth from being injured. If no inconvenience is felt, the quantity of the acid may be increased to two, and even in certain cases to three drachms.

By some modern writers, dandelion is highly extolled in the treatment of chronic inflammation of the liver, or incipient scir-

rhus of that organ, in a dose of half a drachm of the extract twice a day. Either a strong decoction, or the fresh expressed juice, in doses of from two ounces to four, two or three times within the twenty-four hours, will, however, be found more active preparations. A course of stomachic bitters, with cinchona and colomba, ought to be adopted during the convalescent state.

SPLENITIS, OR INFLAMMATION OF THE SPLEEN.

This disease comes on with a shivering, succeeded by great heat, thirst, and other febrile symptoms; anxiety about the præcordia, difficult respiration, and dry cough. An obtuse pain is felt under the short ribs of the left side, extending over the whole abdomen, and shooting through the diaphragm into the left shoulder. The fever generally increases every fourth day, the feet and knees grow red, the nose and ears sometimes pale. The pulse on the left side is sometimes partially suppressed, intermittent and weak. There is lassitude and debility, watchfulness, and sometimes delirium. Indigestion ensues, with anorexia, vomiting of green bilious matter, faintings, and bleeding from the nostrils. The swelling on the left side, which accompanies this disease, represents pretty nearly the form of the spleen. Splenitis is accompanied with less danger than hepatitis, and a vomiting of black grumous matter, which in other acute diseases is reckoned a fatal symptom, is said to prove sometimes critical and salutary in this. Splenitis, like other inflammatory affections, may terminate either in resolution, suppuration, or scirrhus, though it is sometimes carried off by the hæmorrhoids. An abscess of the spleen will sometimes be formed without much previous distress or disorder, which bursting suddenly, pours its contents amongst the viscera of the abdomen, and in a few days destroys the patient. That enlargement of the spleen, the consequence of long continued intermittents, is called ague-cake. A simple enlargement of the spleen may continue for many years, without much injury to the general health. For the cure of splenitis, the antiphlogistic system must be put in practice, by general and topical bleedings, mercurial purgatives, blisters and fomentations, as in hepatitis. In chronic enlargements or indurated state of the spleen, recourse must be had to mercury in an early period, both as a purgative and a deobstruent.

PANCREATITIS, OR INFLAMMATION OF THE PANCREAS.

A MORBID condition of the pancreas has seldom been made the subject of investigation by pathologists, or admitted into nosological arrangements. The pancreas being an organ of glandular structure, is liable to be affected with inflammation, ulceration and scirrhus. For the following statement I am indebted to an ingenious inaugural dissertation on the functions and diseases of the pancreas, by Thomas Sewall, M. D.* Our author, after citing two instances of diseased pancreas from Morgagni, proceeds to detail the particular circumstances attending two examples of it which fell under his own observation, together with the appearances on dissection. Both these subjects were young persons, of studious and sedentary habits. The prominent symptoms in the first case, were, an obtuse pain, deep seated, and fixed in the region of the epigastrium, with an incurvation of the body forward, and an inability to sit or stand erect without greatly increasing its severity. In a few months these symptoms were accompanied with dyspepsia, great acidity of the stomach, and an occasional vomiting. His appetite was generally good, but nothing could be retained long enough by the stomach to undergo digestion, except milk, which constituted the greatest part of his diet, ever after the attack, till his death. This case finally terminated fatally, by a pulmonary consumption. In the second case, the patient was first affected with a tumefaction of the parotid and submaxillary glands, also of some of the lymphatic glands of the neck. This suddenly subsided, and soon after a considerable tumour made its appearance in the epigastrium, accompanied with severe deep seated pain, and an almost constant vomiting. There was, as in the preceding case, an incurved position of the body, and inability to sit or stand erect without greatly increasing the severity of the pain. Nothing could be retained by the stomach but liquid food, and that only when taken in small quantities and at short intervals. The bowels were usually costive, and could only be kept free by the use of cathartics and enemas. These, with blistering over the stomach, opium, and lime water, were the most effectual remedies in alleviating these distressing symptoms. But their effect was only pallia-

* This gentleman is now Professor of Anatomy and Physiology, in the Columbia Medical School, at Washington, and is an ornament to his profession, and distinguished for his indefatigable pursuit of medical knowledge and improvement.

tive; great emaciation and debility ensued, which finally terminated in death. On examination of the first subject, the pancreas was the only one of the abdominal viscera, in which there was any mark of disease. This was enlarged to about twice its natural size, and scirrhous, particularly its right extremity, which embraced the duodenum, and pressed so firmly on the pylorus, that its orifice would scarcely admit of the introduction of a common sized catheter. On examining the second subject, the pancreas was found enlarged to nearly three times its natural size, with its left extremity extending into the left lumbar region, and its right pressing firmly on the duodenum and small extremity of the stomach, and thereby nearly obliterating its pyloric orifice. Its surface was universally irregular, hard and unyielding, and in many places exhibited in its appearance the scirrhous structure. From the foregoing cases, says Dr. Sewall, pain in the epigastrium, vomiting, and acidity of the stomach, appear to constitute the most remarkable indications of an enlarged and scirrhous affection of the pancreas.

Vomiting is another symptom which strongly indicates an affection of the pancreas. This was a leading feature of the disease in each of the above cases; it is also mentioned by Morgagni and Bonnetus, as constituting the principal indication of an affection of the pancreas, in all those cases which they examined after death.

The incurvated state of the body appears also worthy of notice. This is probably chosen from its relaxing the abdominal muscles, enlarging the cavity of the abdomen, and thereby taking off from the diseased pancreas the pressure of the neighbouring viscera.

The treatment of scirrhous affection of the pancreas, it is evident can be only palliative. The principal indications are to alleviate the pain, restrain the vomiting, and correct the acidity of the stomach.

NEPHRITIS, OR INFLAMMATION OF THE KIDNEYS.

The patient, in this complaint, is seized with the usual symptoms of inflammation, and is attended with heat and a sharp pain about the region of the kidneys, and a stupor, or dull pain in the thigh of the affected side. The urine is at first clear, and afterwards of a reddish colour, voided frequently, and in small quantities at a time.

There is a vomiting, and often a costiveness and difficulty in breathing, with cold extremities. There is a painful uneasiness when sitting upright or standing, the most easy position being that of lying down on the side affected. This disease may be distinguished from the colic, by the pain being seated further back than in colic; and from lumbago, by the patient being able to move the trunk of his body without occasioning that severe pain shooting along the course of the ureters, and by the difficulty of passing his urine.

This disorder may proceed from any thing of an acrid nature stimulating the kidneys, as strong diuretic medicines, spirits of turpentine, tincture of cantharides, &c. It may also be occasioned by suppressed evacuations, external contusions, calculous concretions, strains of the muscles of the back, violent or long continued riding on horseback, or shaking in a carriage.

At the first onset of this complaint, bleeding must be employed, and if the quantity of blood taken should prove insufficient to afford considerable relief, the operation ought to be repeated, according to the urgency of the symptoms, within twenty-four hours, especially if the patient be of a full habit. Fomentations and the warm bath are among the most important means to be employed; but blisters, on account of the irritation which might be excited by the cantharides, are not to be advised in this complaint. A mild laxative, consisting of an infusion of senna, Glauber's salts, and manna, will be highly proper, and soft emollient clysters of milk and water, or mallows and milk with some linseed oil, must be frequently injected.

The mucilage of gum arabic, with barley water, or an infusion of linseed or marsh-mallow root, sweetened with honey, may be drank occasionally with much advantage. In case of violent pain, twenty drops of laudanum every six or eight hours, will afford essential relief, but if combined with a tea-spoonful of spiritus nitri dulcis, the effects will be still more beneficial. Considerable relief may sometimes be obtained by mixing a tea-spoonful of laudanum with the clyster. Besides bleeding from the system at large, topical bleeding, by the application of leeches to the hæmorrhoidal veins, has in some instances afforded relief. A decoction of the dried leaves of the peach tree, says Dr. Thomas, drank in the quantity of a pint a day, has been found a very useful remedy in many cases of nephritis.

Should this affection of the kidneys terminate in suppuration, which may be known by the abatement of the pain, a remaining sense of weight in the loins, with frequent shiverings, succeeded by heat, and the appearance of purulent matter in the urine, balsamic and detergent medicines, with chalybeates and the Peruvian bark, must be directed. But the uva ursi, or the wild cranberry of our woods, when given in doses of half a drachm or more three times a day, has been productive of the happiest effects.

Where an inflammation of the kidneys has proceeded from the stimulus of a stone or gravel, the same course is to be followed, with the additional means recommended under those particular heads.

Should a venal hæmorrhage occur, alum as an astringent, and the acetate of lead and digitalis as sedatives, may be relied upon as remedies.

In all these complaints, the patient should abstain from every thing which by its acrid or heating qualities may prove a stimulus to the kidneys. His diet ought to consist chiefly of milk and vegetables, with animal broth and rice, or barley. His drink should be whey and butter-milk; the latter, used while fresh, is said to be a valuable remedy in ulcers of the kidneys.

CYSTITIS, OR INFLAMMATION OF THE BLADDER.

In this complaint, the patient experiences a violent pain in the region of the bladder, sometimes attended with an external redness in that part. There is a frequent desire and a great difficulty in discharging urine, often a total suppression, with frequent efforts to expel the fæces, occasioned by the perpetual irritation affecting those parts. These symptoms are accompanied with febrile heat, sickness, and vomiting, great anxiety and restlessness, and sometimes delirium and coldness of the extremities ensue.

The cure of this disease is to be effected consistently with the plan which has been prescribed in the preceding local inflammations; but the case will require the most prompt attention and application of remedies. Bleeding, fomentations, and the warm bath, followed with gentle laxative medicines, are chiefly to be

relied on. Ten or fifteen grains of sal nitre, or a tea-spoonful of the spiritus nitri dulcis, may be given in the patient's drink occasionally, which should consist of barley water or linseed tea. If the urine be retained from a stricture in the neck of the bladder, and all other means fail to relieve, the catheter must be employed to evacuate the urine, but this must be done with the caution of an experienced hand. But no disease requires or bears more copious bleeding than an inflammation of the bladder, and it should be repeated so long as the symptoms continue to be violent.

Hysteritis, being an affection peculiar to females, and succeeding to child-birth, will be noticed under the head of Diseases of Women.

Urethritis and *Orchitis* will receive attention under the head of Gonorrhœa and Venereal Disease.

PHLEGMASIA DOLENS, OR LYMPHATIC SWELLING OF THE LOWER EXTREMITIES OF PUERPERAL WOMEN.

This singular complaint, to which lying-in women are subject, is not of very frequent occurrence, and is more formidable and distressing in its circumstances than dangerous in its nature and consequences. Numerous conjectural theories have been advanced, with the view of explaining the nature and causes, and accounting for the phenomena of this perplexing disease; but the result, so far from being satisfactory, seems to evince that the subject has hitherto eluded investigation, and remains involved in obscurity. It is, however, the opinion of most modern writers that phlegmasia dolens is a lymphatic disease of a local nature, confined to the lymphatics of the pelvis, and the limb actually affected, and dependent on causes peculiarly connected with the puerperal state. The usual period of its attack is from fifteen to twenty days after parturition, and frequently when the woman is in the most favourable circumstances of recovery, and not having been exposed to any error or untoward accident either at the time or subsequent to delivery. It commences suddenly with a sense of weight, stiffness, and pain about the back, upper part of the thigh, groin, and labia pudendi of one side;

sometimes preceded by rigors and accompanied with a degree of febrile heat. In some instances the pain is first felt in the calf of the leg or knee, darting down to the heel; the limb soon begins to swell, and becomes very tense, with heat but without redness, the skin being pale, and of a peculiar shining aspect. The swelling sometimes proceeds from the groin downwards, and in other cases begins at the calf of the leg and proceeds upwards, but in every instance the pain and swelling continue to increase and extend until the whole limb, from the hip to the toes, arrives in about twenty-four or thirty-six hours to twice or thrice its natural size. The skin is now of a pale glossy white colour, rather warmer than natural, excessively tense and elastic, leaving no impression of the finger; exquisitely painful and tender, the patient being utterly incapable of moving her body or leg from the spot which it occupies; some abatement of pain takes place when the swelling has arrived at its greatest extent. The pulse is seldom below one hundred and twenty, often one hundred and forty in a minute; the tongue is white and moist, and there is thirst and loss of appetite. The countenance exhibits a pale chlorotic appearance, the bowels are sometimes bound, but oftener loose with fœtid stools, and sometimes attended with a vomiting of dark coloured bile. The lochial discharge and lacteal secretion are in some instances suppressed, in others these continue free during the progress of the disease. The inside of the pelvis and the inguinal glands are tumefied, painful, and tender. Within six or eight days, or sooner, after the attack, the inflammatory or febrile symptoms generally subside, and the swelling, tension, and pain of the limb begin gradually to diminish, from the groin downwards, and in this state of the complaint, some indentation may be made with the finger, but the patient is debilitated, and the limb remains stiff, weak, and often motionless, for some weeks, or even months. It sometimes happens that before the complaint has completed its course in the leg and thigh of one side, the other becomes in the same manner affected, and this has no influence on the progress of the first; and in fact the extremities may be a second time attacked with the same affection. If in any stage of the disease the skin be punctured, very little serum is discharged, as in anasarca, nor is the swelling increased by placing the limb in a depending position.

In the curative treatment of phlegmasia dolens, regard must be paid to the state of the limb, and to that of the general system.

Cases may present of robust, plethoric habits, in which such degree of inflammation may prevail as to indicate the use of the lancet and the antiphlogistic regimen for its removal. The bowels should be moderately excited by a solution of the neutral salts and cream of tartar, or other laxatives, and the saline mixture, with tartarized antimony, should be administered to promote a regular determination to the surface: but if much nausea or vomiting attend, a gentle emetic will undoubtedly be proper. Where considerable irritability of the system and restlessness prevail, the compound powder of ipecacuanha may be given in a proper dose at bed time. We are not, however, to promise ourselves much permanent advantage from the feeble means above mentioned in this obstinate complaint. A remedy of superior efficacy and in which we may confide for a cure, is to be found in the sub-muriate of mercury; a moderate course of calomel, either by itself or combined with opium, will in most cases of this description rectify the diseased action of the lymphatic system, and speedily reduce the swelling of the affected limb. About two grains of calomel given every six or eight hours for a short time, has in several instances effected permanent cures; the pain, tumefaction, and other symptoms, yielding very readily to a slight affection of the salivary glands. Opium is a medicine of much importance in these cases, and must be administered to such extent as pain, irritation, and restlessness may require. In those instances where the patient is of a lax habit, or is much debilitated by previous evacuations or other cause, the antiphlogistic regimen must be rejected, and means resorted to for the purpose of restoring the proper tone and energy of the constitution. The medicines best adapted for this intention, are cinchona bark, bitters, chalybeates with wine, a nutricious diet, exercise, and cold bathing. The tonic medicines may on some occasions be combined with diuretics, as crystals of tartar and squills, with advantage. With respect to topical applications, these have not in general produced the beneficial effects which were desired and expected. All attempts to induce a discharge of lymph from the diseased limb by punctures or blisters, have proved useless, or of mischievous tendency. More beneficial effects have been derived from the application of a strong solution of sal ammoniac and acetate of lead in vinegar. In one instance I have known a soft poultice of boiled turnips to afford more relief than any other application which was tried. From the known efficacy

of mercury, internally administered, it may be proper to suggest the trial of the inunction of the mercurial unguent, to which may be added a due proportion of camphor, and attentively observing its effects. Flannel cloths wrung out in hot vinegar, and renewed as often as they become cold, have, according to Dr. Thomas, been practised with invariable success in the lying-in hospitals in London; and much relief, he observes, has been received by surrounding the limb with a soft poultice, composed of bran and olive oil, with the addition of half an ounce of tincture of opium, and a sufficient quantity of warm water to give it a proper consistence, renewing it morning and night. A flannel roller should be constantly worn round the limb, being applied uniformly smooth and moderately tight from the foot upwards. When in a state of convalescence, the restorative and tonic plan ought to be pursued as respects medicine, diet, and exercise. Professor Hosack has displayed much intelligence in discussing the doctrine advanced by Dr. Davis, that the proximate cause of phlegmasia dolens is a violent inflammation of one or more of the principal veins within and in the immediate neighbourhood of the pelvis. The learned professor thinks that from taking a general view of the disease, it may be traced to an inflammation of the limb, involving all its parts, muscles, cellular membrane, cutis, lymphatics, glands, nerves, and blood vessels. The success, too, which has generally followed the antiphlogistic treatment, where it has been vigorously pursued in the first stage of the disease, is certainly favorable to this view of the pathology of phlegmasia dolens. Professor H. is very decided in the opinion that phlegmasia dolens is an inflammatory disease, not only affecting the limb, but the whole system. Of course, in the treatment of phlegmasia dolens, regard must be had to the stage of the disease. During the inflammatory or first stage, those means should be employed which are calculated for the removal of general and local excitement, viz. blood-letting, saline cathartics, nauseating doses of antimony or ipecacuanha, and the use of tepid vinegar and water as a fomentation to the limb: in some cases blisters to the parts most affected have been found serviceable. In the second stage of the disease, when the febrile and inflammatory symptoms have subsided, great advantage has been obtained from small doses of calomel and squills, while stimulating liniments, friction, and the flannel roller, are among the most beneficial applications to be made to the part. In the first stage of

the disease, the diet should be strictly antiphlogistic—in the last, the moderate use of wine and the more stimulating nourishments may be administered, proportioned to the degree of debility induced.

RHEUMATISMUS.

Of this disease there are two species, the acute in which both fever and inflammation exist in a high degree, and chronic, when neither of these are present, but severe pains of long continuance are the principal symptoms. It attacks persons of all ages, and the spring and autumn are the seasons in which it is most prevalent.

The rheumatism is frequently the consequence of obstructed perspiration, sudden changes of the weather, wet feet, wet clothes, lying in damp linen, or on the damp ground when the body is hot, and all quick transitions from heat to cold: it may also be occasioned by the stoppage of the customary discharges, or by excessive evacuations, which debilitate the system; it is often the effect of chronic diseases, which vitiate the humours; as the scurvy, syphylis, and obstinate autumnal agues.

Acute rheumatism generally commences with the usual symptoms of fever, preceded or succeeded by acute and pungent pains in the joints, increased by the action of the muscles belonging to the joints, and attended with heat on the part; the pain is not, however, confined to the joints, but it frequently shoots along the muscles from one joint to another; the parts most commonly affected, are the hips, knees, shoulders, and elbows, more rarely the ankles and wrists; the pain is much increased by the slightest motion, or even by the heat of the bed; there is some degree of swelling and redness in the parts most affected, which are painful to the touch; the pulse is frequent, full and hard; the bowels are generally costive, the urine at the commencement of the disease is high coloured, and generally without sediment; but on the remission of the symptoms, it deposits a lateritious one, and there is a tendency to sweating in the course of the disease, which rarely brings relief: an exacerbation of the febrile symptoms takes place every evening, and a remission towards morning, and the pains are most severe and most apt to shift their place in the night time.

The pain shooting along the course of the muscles, its being increased upon the slightest motion of the affected muscles, at the same time not having been preceded by dyspeptic symptoms, and its attacking the patient in the day time or evening, will distinguish acute rheumatism from the gout, which commonly makes its attack about two or three o'clock in the morning.

The curative treatment in acute rheumatism is nearly the same as that of an inflammatory fever, the morbid excitement must be reduced by a strict adherence to the antiphlogistic regimen by blood-letting, which must be repeated in proportion to the degree of strength and hardness of the pulse, and violence of the symptoms; but still with some caution, as very profuse general bleeding not only retards the recovery of the patient, but frequently induces an obstinate chronic state of the disease; topical evacuations by means of leeches, may, after general blood-letting, be advantageously employed: when the pain becomes fixed in the joints, attended with redness and swelling, six or eight leeches may be employed at a time, and the same number again the next day if the pain be still very severe. A course of purgative medicines should next be administered, such as calomel and neutral salts, and a proper diaphoresis is of great advantage in this disease; one of the most effectual medicines for this purpose is Dover's powder, ten grains of which may be taken every hour or two, till the desired effect is produced. The spiritus Mindereri is another valuable medicine in this disease, a table-spoonful of which, with one quarter of a grain of emetic tartar and six or eight drops of laudanum, given every two hours, will be admirably adapted to the purpose of exciting a diaphoresis, and mitigating the febrile symptoms. But for the purpose of opening the secretions and subduing the inflammatory diathesis, there is not, perhaps, a more effectual medicine than calomel and opium conjoined, from one to two grains of the former, and from a quarter of a grain to one grain of the latter, may be administered three times in a day with the happiest effects; the patient should in the mean time take freely of warm barley water, gruel, or mustard whey, with cream of tartar.

When the morbid excitement is considerably reduced, and the pain confined to one part, blisters will prove useful; and when the extremities are much swollen after the employment of leeches, the following cataplasm may be applied to the tumefied parts with great benefit; take of rye meal, one pound, old yeast, four ounces,

common salt, two ounces, warm water, a sufficient quantity; let the whole be wrought into a paste, and wrapped round the part affected as warm as can be; renewing it morning and evening. Warm fomentations, as they tend to aggravate the pain, should never be employed in acute rheumatism. The digitalis or fox-glove, is a remedy of considerable efficacy in this disease; when given in tincture, from ten to twenty drops every four or six hours, it has, in the hands of many practitioners, answered the most sanguine expectations, and often superseded the necessity of blood-letting. Another plant of similar powers, and adapted to the cure of this disease, is the blood-root; this is to be administered in tincture, from forty to sixty or eighty drops, three times in a day, carefully watching its effects, and diminishing or increasing the dose as may be deemed necessary; for although it is not so deleterious in its operation as fox-glove, it is sometimes apt to produce great prostration of the vital powers.

The eau medicinale, as directed in the chapter on gout, has of late obtained a just reputation for the essential relief which it has frequently afforded during the distressing pains which attend both acute and chronic rheumatism; further trials of it ought to be recommended.

After evacuations have been premised, it is not uncommon for acute rheumatism to assume more or less the form of an intermittent, and the pain to be attended with distinct intermissions; in these circumstances the cinchona is the remedy to be relied on, and will in general effectuate a cure, but it is supposed to be more efficacious when eight or ten grains of sal nitre are added to each dose.

The chronic rheumatism is most common to people in the decline of life; the pains, which are more or less of a wandering nature, are felt in the large joints or muscles, particularly upon motion, which are much relieved by artificial warmth; the parts affected are pale and rigid, and a sensation of coldness is felt in them, even when the other parts of the body are in a state of perspiration; there is at the same time no fever, and in general but little or no tumour.

In this species of rheumatism, a different mode of treatment must be adopted: bleeding from the system will in general appear inadmissible, but it will be necessary to rub the parts affected several times in a day, with the volatile liniment or the anodyne bal-

sam, and then wrap them in flannel; and in some instances, electricity or galvanism may prove beneficial. Camphor, dissolved in æther, has been applied externally in painful affections of the joints, with the greatest utility.

In long continued and obstinate rheumatic affections of the ligaments and membranes of joints, local bleeding by means of a number of leeches, or the operation of scarifying and cupping, will probably afford more permanent relief than any other remedy; after the employment of which, a drain by the aid of issues should be continued for a length of time.

The general or partial warm bath is a remedy of some efficacy in these complaints, but the diligent application of the steam or vapour from warm water, to the particular parts, or Dr. Jennings' spirituous vapour bath, is reported to be still preferable. Some advantages have been realized from the repeated applications of blisters near to the diseased joints, so as to keep up a perpetual discharge, as in cases of white swelling. By some, sea bathing or other cold bath is recommended, while others have but little confidence in the remedy. The mercurial compound liniment, to be found in the Appendix, is undoubtedly particularly well calculated for lessening the stiffness and chronic thickening of the ligaments of joints, so often the effects of this obstinate disease.

The employment of the external remedies just detailed, must be accompanied with such internal medicines as are best adapted to stimulate and warm the system, to promote a diaphoresis, and to alleviate the painful symptoms. The gum guaiacum and the volatile alkaline salts are among the most powerful of this description, the former of which, when taken in as large doses as the stomach can bear, has often produced the desired effect. The following preparation is calculated to afford much relief: take ammoniated tincture of guaiacum, one ounce, anodyne balsam, half an ounce; mix and give two tea-spoonfuls twice in a day in a cup of infusion of guaiacum wood, or of burdock roots. In some instances, considerable benefit may be expected from the use of calomel combined with Dover's powder, in palliating the symptoms and allaying irritation.

There are several of our domestic plants which are entitled to the confidence of physicians as remedies in both acute and chronic rheumatism; the root of skunk cabbage has been known in several slight cases to remove every symptom of the disease, and it is un-

doubtedly worthy of trial in every case, however severe or obstinate. The phytolacca decandra, or garget, has acquired considerable reputation in the southern states as a successful remedy in rheumatism. Both of these plants may be prescribed according to the directions in the Appendix, and a perseverance in their use enjoined till their efficacy is satisfactorily ascertained; and in many instances it is highly probable that no medicine will be more likely to succeed.

In those cases of chronic rheumatism where there is great redness of the surface of the body and extremities, often covered with clammy sweat, and attended with pain, tumefaction and rigidity of the joints, Dr. Chapman of Philadelphia, is in the habit of prescribing the *juniperus sabina*, or *savin*. The result of his extensive experience is such that he strongly recommends it as a warm, powerful and diffusible stimulus, which seldom fails to produce the most beneficial effects. He directs the powdered leaves in doses of twelve or fifteen grains three times a day, to be continued until relief be obtained, or for several weeks.

When the chronic rheumatism affects the back and loins with severe pains, so that the patient cannot stand upright nor enjoy ease in bed, the complaint is called lumbago; and when it fixes in the hip joint it has the name of sciatica, or hip-gout. Both of these complaints are to be treated nearly in the same manner as chronic rheumatism affecting any other parts; issues should be made in the leg or thigh, and the following will be found a very efficacious application: take of camphor, two drachms; dissolve it in an equal quantity of oil of turpentine, and add of basilicon, an ounce, common black soap, half an ounce, and volatile sal ammoniac, half a drachm; let the mixture be spread upon leather and applied to the part. The most efficacious remedy for the cure of sciatica is the oil of turpentine. This should be applied to the part and rubbed into the skin twice in a day, for a week or two, and it will seldom fail to remove the complaint. It may be well to dissolve a little camphor in the oil.

In the chronic rheumatism the patient may continue his ordinary mode of living, unless inflammatory symptoms occur; his diet should be nutritive and somewhat stimulant; mustard and horse-radish taken in their natural state will be salutary; wine or mustard whey, or barley water with cream of tartar dissolved in it, will be the most proper drink, and the patient should wear flannel next his

skin, and carefully guard against exposure to cold, night air, wet clothes, and wet feet, which are particularly prejudicial.

"Dr. Balfour of Edinburgh, has published in the Edinburgh Medical and Surgical Journal for April, 1815, a long paper on the good effects of tight bandages in chronic rheumatism." He applies a flannel roller to the affected limb, with a degree of tightness which the patient can conveniently bear. In some instances he directs the bandages to be removed daily, and diligent friction to be employed for some time, when the bandage is to be replaced as before. If high and inflammatory symptoms be present, he directs venesection to the necessary extent and laxatives to be administered. By the assistance of bandages the patient is immediately enabled to walk in the open air, by which a universal glow and moisture of the skin is more successfully promoted than by the most powerful sudorifics. Several cases are detailed in which cures were speedily effected by the above treatment. See New England Medical Journal, Vol. IV., page 393. Dr. Hosack has observed the most decided benefit from the use of the flannel roller, but he has lately had recourse to the antimonial ointment, qickened by the addition of the tincture of cantharides, or of blistering ointment, with more effect than from any local application he has tried in this disease. His formula is as follows: R. tart. antimon. ℥iij. adip. suill. ℥j. tincture Lyttæ, gtt. xxx. vel. ung. vesicat. ℥j. M. The limb or part affected, is directed to be rubbed three times a day with this ointment, an eruption of pustules soon succeeds, which very rarely fails to afford relief. In some instances, in which the rheumatic affection was attended with an enlargement or unusual laxity of the joint, great advantage was obtained from the celebrated Hungarian plaster. This consists of the gum ammoniac, dissolved to saturation in the vinegar of squills; a flannel cloth dipped in this liquid, and closely applied to the affected joint, not only produced an excitement and eruption similar to the antimonial ointment, but when dried and contracted around the joint, afforded the additional advantage of a mechanical support to the relaxed parts, in aid of the excitement derived from the stimulating ingredients composing the plaster. It is proper to add that the medicated steam bath has been found extremely well adapted to the cure of rheumatism in all its forms.

ARTHRITIS, OR GOUT.

The most common subjects of this tormenting disease, are those who are indolent and inactive, who use a full diet of animal food, and indulge freely in the use of tartarous wines, and other fermented liquors. It more frequently attacks corpulent robust men than women, and unless hereditary, it seldom appears before the age of thirty-five. Besides a hereditary disposition, this disease may be produced by a deficiency of the customary evacuations, intemperance, or a free use of acidulated liquors, strong tea or coffee, severe application of mind, grief, vexation, night watching, excess in venery, exposure to cold, and whatever tends to induce debility.

The gout will be distinguished from rheumatism by the pain generally attacking the joints of the extremities; it is at the same time less inclined to shift, and is not so much increased upon the slightest motion of the affected muscles, and when it does shift it generally attacks the corresponding limb, or some of the viscera; the parts affected are generally more red and swollen, and the dyspeptic symptoms, which rarely precede rheumatism, are present in a considerable degree for some days preceding the attack of the fit.

A paroxysm of *regular* gout sometimes makes its attack without any previous warning; in general, however, it is preceded by indigestion, belching of wind, and slight head-ach and drowsiness. The appetite is irregularly increased or impaired; there is in some a coldness, numbness, and sense of prickling in the feet and legs, accompanied with cramps of the muscles of the lower extremities. These symptoms having continued for several days, the attack commences sometimes in the evening, but more frequently on going to bed, the patient enjoys his usual natural sleep until two or three o'clock in the morning, when he is awakened by a very acute pain, most commonly in the first joint of the great toe, but sometimes in other parts of the foot; the pain resembles that of a dislocated bone, and is attended with a sensation of cold water poured over the part; and more or less of a cold shivering, which abates as the pain increases in violence, and is succeeded by a hot fit; the pain continuing to grow more violent, is sometimes so exquisite as to be compared to a dog gnawing the part; the pain and fever continue, and are attended with great restlessness of the whole body till the midnight following, after which it gradually declines; and a gentle

sweat coming on, the patient falls into a sleep. In the morning he finds the part affected with some redness and swelling, which after continuing some days, gradually abate : for some time the pain and fever return in the evening, but with a less degree of violence, and a remission takes place towards morning ; and after these symptoms have continued for about ten or fourteen days, gradually becoming less severe, they generally cease altogether. When the fit is going off, an intolerable itching seizes the part affected, a desquamation of the cuticle ensues, and some trifling degree of lameness remains ; the patient, however, enjoys more perfect health and spirits than he had for a long time previously experienced. The first attacks of the gout are generally at long intervals, for the most part three or four years, but after repeated attacks, the intervals become shorter, and at length the attacks occur annually, afterwards twice a year, and at last several times in the course of the autumn, winter and spring, so that the patient is scarcely ever free from it except for two or three months in the summer. In the progress of the disease, different parts become affected ; at first it is commonly confined to only one foot, but in the subsequent fits, both feet in succession ; and frequently removes from one foot into the other. In many instances, after the disease has frequently recurred, concretions of a chalky nature are formed upon the outside of the joints, and for the most part immediately under the skin ; where it seems to be deposited at first in a fluid state, but afterwards becomes dry and firm ; which contributes with other circumstances to destroy the motion of the joint ; and the same kind of concretions are sometimes deposited in the kidneys, occasioning nephritic complaints, which alternate with the gouty paroxysms. Instances sometimes occur where the inflammatory affection of the joints does not take place, and the pain is only slight and wandering ; there is loss of appetite, indigestion, flatulence, nausea, vomiting, acid eructations, and severe pains in the region of the stomach ; there are often pains and spasms in the trunk and upper extremities ; the bowels are commonly costive, sometimes, however, a diarrhœa with griping and colicy pains attend, and when the viscera of the thorax are the seat of the disease, palpitations, faintings, asthma and other affections of the lungs are the consequence. In other cases, the head is affected with pains, vertigo, palsy and tendency to apoplexy. These symptoms constitute what is called *atonic* gout.

When the inflammation attacks the joints in the usual manner, but the pain neither attains its usual degree of violence, remains the accustomed time, nor recedes in a gradual manner, but ceases on a sudden, and some internal part becomes affected ; if the stomach is the seat of the disease, nausea, vomiting, anxiety, and violent pain in the region of the stomach, with the sensation of coldness, ensue ; if the heart is attacked, syncope is the consequence ; if it fall on the lungs it produces an affection resembling asthma, or pneumonia ; and if the head be affected, apoplexy or palsy may arise. To these occurrences the term of *retrocedent* gout is applied. Another variety of irregular gout, is that which is called the *misplaced*, where instead of the inflammatory affection of the joints and extremities, the gouty diathesis produces inflammation of some internal part, and which appears with the same symptoms that attend inflammations of those parts from other causes.

Dr. Rush has greatly improved the treatment of the gout, by recommending bleeding in cases of gout where there is great morbid action in the blood vessels and viscera. The advantages of bleeding in gout, he says, are, it removes or lessens pain ; it prevents those congestions and effusions which produce apoplexy, palsy, pneumonia notha, calculi in the kidneys and bladder, and chalk stones in the hands and feet. It shortens the duration of a fit of gout by throwing it not into the feet, but out of the system.

Dr. Hosack advances the opinion that gout is exclusively an inflammatory disease of the whole system as well as of the part affected. That its associate or vicarious diseases, apoplexy, palsy, asthma, habitual catarrh, eruptions on the skin, obstructed viscera, and dropsy, arise from the same habit of body and from the same causes. That the *predisposing* causes of gout are the excessive use of wine, ardent spirits, animal food, the condiments of the table, and the neglect of the exercise necessary to counteract their effects upon the constitution. While the check of the excretions by the cold of autumn and winter, or the sudden impetus given to the circulations by the returning spring, prove the most usual exciting causes of this disease. That the most effectual means of removing the inflammatory action attendant upon the first stage of the paroxysm of gout consist in depletion by the *lancet*, *cathartics*, and such remedies as operate by restoring the excretions from the surface of the body, the physician paying due regard in the use of these means to the constitution of the patient, his time of life, and

season of the year. That in correspondence with the use of these remedies, both the diet and the regimen of the patient should be simple, and strictly antiphlogistic. Dr. Hosack further observes that the treatment recommended has not only been pursued in his own private practice with the most salutary effects, but that the use of blood-letting in particular, which it is his object to recommend in the treatment of gout, has long since been sanctioned by the truly respectable names of Sydenham, Huxham, Cullen, Musgrave, Macbride, Hamilton, of Lynn, and our late distinguished countryman, Dr. Rush. The antiphlogistic and depleting practice by bleeding and purgative medicines, has long been pursued by the learned Dr. Mason Good, but he enjoins a nice discrimination of cases and circumstances. That mischief has resulted from the practice he readily admits, but that great and essential good, and an easy and rapid cure have been also, in hundreds of instances effected, must be admitted as readily. It is in sound and vigorous constitutions, the robust and healthy, in whom the depleting and refrigerant plan is particularly applicable. In weakly habits, or idiosyncrasies, or incidental debilities of particular organs, a metastasis is a frequent result and peculiarly marks the character of gouty inflammation; and here, indeed, refrigerants, violent purgatives, and venesection, ought to be most assiduously abstained from, and not unfrequently the best practice we can adopt, is that of committing the "person to patience and flannel alone." But in one particular, Dr. Good is rather singular in his practice; it is in the use of cold water externally applied. He speaks from a trial of several years upon his own person, and is anxious that others should participate in what has proved so decisive a comfort to himself. In the heighth of a paroxysm of pain he stripped off the flannel and boldly plunged his foot into cold water for four or five times in succession. The application was peculiarly refreshing; the fiery heat and pain, and all the inflammatory symptoms diminished instantly; he repeated the cold bathing two hours afterwards, and continued to do so through the whole of the day; the complaint gradually diminishing upon every repetition, and in twenty-four hours the fit completely disappeared, and he was capable of resuming his accustomed exercise of walking. For five or six years afterwards in his annual attacks, he always had immediate recourse to cold immersion or affusion. Where the stomach is dyspeptic, the lungs asthmatic, the heart subject to palpitation, the head to nervous pains or drowsiness;

or where there is any known disability in any other important organ, the antiphlogistic course must be avoided. Dr. Sendamore agrees with some of our best modern practitioners, that when the inflammatory diathesis is considerable and is permanent, bleeding is the proper remedy, and its early employment is a point of much importance. The quantity to be abstracted and the repetition of venesection, must be regulated by the degree of the general inflammatory action and the effect produced, regarding the powers of the individual rather than his age. But on the choice and free employment of cathartics and diuretics to remove redundant matter from the alimentary canal, and by the secreting functions of the kidneys, the successful treatment of the paroxysm chiefly depends. He prescribes calomel conjoined with cathartic pills, and where a combined and continued action upon the bowels and kidneys is required, he gives magnesia and sulphate of magnesia conjoined with acetum colchicum at intervals, so as to procure from four to six stools in twenty-four hours, until the fœces and urine acquire healthy characters, and the tongue becomes clean and moist. The preparation of colchicum with vinegar joined with direct purgatives, has never disappointed him in its effects, either to assist the other ingredients in the production of watery evacuations from the bowels, or to increase the urine abundantly, or both; but colchicum in the form of powder or tincture, has failed in his hands of the desired effect. Mercury in small doses combined with antimonials, or in a full dose with purgatives, produces excellent effects; but when exhibited so as to produce mercurial fever or irritation, it proves extremely injurious. As a local application, Dr. Sendamore prefers camphorated alcohol to all others. This should be applied by means of a linen compress, consisting of several folds; the liquid must be about luke warm, for if it be either hot or cold, the intention of the remedy is frustrated, and the slightest and coolest covering will be sufficient. External warmth he deems of pernicious tendency.

In regard to retrocedent gout, our author ascribes the exciting cause to sudden cold applied to the body generally, or locally to the affected part. He is entirely opposed to the usual stimulating mode of treatment of this form of the disease; instead of which, if the stomach be oppressed with indigestible food, first to clear the alimentary canal by vomiting and purging, immediately after which to administer from forty to eighty drops of laudanum. If the dis-

ease attack the bowels and induce enteritis, or the brain, as in apoplexy, we are advised to abstract sixteen or twenty, or even thirty ounces of blood from the arm, and to divert the diseased action again to the extremities by sinapisms, warmth and other topical stimulants.

Professor Chapman, of Philadelphia, seems to be decided in his opinion that gout, "if not originating in, has a most intimate connexion with certain states of the alimentary canal." Disregarding the authority of Sydenham, the Professor has, for several years, habitually employed purgatives in the paroxysms of gout, and with unequivocal advantage. Not content with simply opening the bowels, he completely evacuates by active purging, the entire alimentary canal, administering every day or every other day a very large dose of rhubarb and magnesia, to produce a greater or lesser number of operations, according to the strength of the patient and the violence of the case. During this course, all the distressing sensations of the stomach are removed, the pain and inflammation of the limb gradually subside, and the paroxysm thus broken speedily passes away. Every species of irregular gout is attended with considerable danger, and are to be guarded against with the utmost care.

During the paroxysms of gout, if the patient be young and strong, both his diet and drinks should be light, thin and cooling; but if the constitution be slender, and the patient accustomed to high living, it will not be prudent to deviate essentially from his usual diet; a generous glass of wine should be allowed, and in order to promote perspiration, wine or mustard whey may be directed for his ordinary drink, and it will be rendered more efficacious by mixing with it twice a day a tea-spoonful of the spirit of hartshorn, or of the volatile tincture of gum guaiacum, unless inflammatory symptoms should chiefly prevail. During the continuance of the paroxysm, the leg and foot should be wrapped in flannel, fleecy hosiery, or new combed wool. After the excitement has abated, we are advised by that enlightened physician, the late Dr. Rush, to apply blisters to the legs and wrist, and cabbage leaf to the part affected. When the violence of the symptoms is abated and the pain returns only during the night, and prevents sleep, opiates may be taken at bed time with safety and advantage; especially in the case of persons advanced in life, and who have often been affected with the disease. When after the cessation of the fit, some swell-

ing and stiffness remain in the joints, recourse should be had to the diligent use of the flesh brush, and a dose or two of the bitter tincture of rhubarb or wine of aloes may be taken with advantage, and the Peruvian bark, with stomach bitters, assisted by a light but nourishing diet, ought to be employed. The body must be kept gently open by means of diet, or very mild laxatives; it is very important that the patient be constantly kept as quiet and still as possible, and his mind soothed and calmed during his painful situation. It should be enjoined on the patient to use gentle exercise on horseback or in a carriage, and although it may be painful to use the joint affected during the decline of the fit, it will be found in the end to be productive of beneficial effects.

In the atonic gout, or that which does not fix itself in the feet and hands, we must attempt the cure by carefully avoiding all debilitating causes, and by employing at the same time the means of strengthening the system in general, and the stomach in particular, for which purposes moderate exercise both of the body and mind should be directed, and cold bathing may be employed with safety and advantage, if the extremities are not threatened with pain, and the patient feels a glow of heat upon coming out of the bath, and his appetite and spirits are rendered better: the moderate use of animal food and wine will be proper; as old Madeira and sherry wines are least disposed to turn sour on the stomach, they should be preferred; if, however, wine disagrees with the stomach, weak spirit and water may be substituted. For strengthening the stomach and the system in general, bitters and the angustura, or Peruvian bark, must be employed, as also some of the preparations of iron, and the chalybeate waters if to be procured fresh from the spring. To these means may occasionally be added cordial and other gently stimulating medicines, as the volatile tincture of gum guaiacum, ginger, mustard, and sassafras tea. If the dyspeptic symptoms are very troublesome, gentle emetics should be administered, which not only clear the first passages, but often cause the gout to appear in the extremities; costiveness must be obviated, cold particularly guarded against, and issues in the extremities are often found serviceable; blisters on the lower extremities are sometimes of great utility, but they must on no account be applied when any pains have been felt in the joints. It should be recommended to persons liable to atonic gout, to repair to a warm climate during winter, and in all cases to wear fleecy hosiery or flannel

next the skin. The retrocedent gout happens when the moving powers are so weakened as not to be able to throw the offending matter to the extremities, or when there deposited, to keep it in that situation.

When this species of gout makes its attack upon the stomach, and immediate danger is threatened, we must have recourse to large quantities of strong old wines, joined with spices, and given warm; or a tea-spoonful of æther, or the spirits of sal ammoniac, may be given; but the most powerful remedy probably is a large dose of laudanum, and the same may be given in smaller doses, conjoined with aromatics, or hot brandy and water, at short intervals; frictions with brandy are useful, and bladders filled with hot water must also be applied to the stomach; hot bricks wrapped in flannel must also be put to the feet, and blisters and mustard cataplasms should be applied to the lower extremities If the stomach is in a very irritable state, and will not retain the necessary remedies, the epigastric region must be fomented with hot brandy and the tincture of opium; a flannel moistened with brandy, or a blister, or an anodyne plaster may be tried, and hot brandy and water with laudanum should be frequently injected into the intestines. In moderate cases, the asafœtida and opiates combined with aromatics, or with camphor and volatile alkali, will generally answer; but musk in large doses has been much commended in this form of gout: when the affection of the stomach is attended with vomiting, it should be encouraged by drinking chamomile tea mixed with wine, after which thirty drops of laudanum with a tea-spoonful of the compound spirits of lavender should be given. If there is a diarrhœa, it will be necessary to promote it by taking plentifully of weak broth; and after the bowels are thus cleansed, the irritation may be allayed by a dose of laudanum and lavender, as above mentioned. Should the lungs be the seat of the disease, and the gouty asthma be produced, we must order opiates, antispasmodics, and blisters to the thorax, and between the shoulders, and the calves of the legs, and stimulating poultices of mustard and bread crumbs applied to the soles of the feet. If the disease makes its attacks on the head, and causes head-ache, vertigo, coma, apoplexy, or palsy, the external applications already mentioned may be employed, and a blister applied to the head: besides which, ten grains of ginger, and five grains of the volatile salts should be given if possible in two or three large spoonfuls of warm wine.

The kidneys are sometimes attacked with gouty affection, imitating a fit of the gravel, in which case warm fomentations, or bladders filled with warm water, constantly applied over the parts affected, together with laudanum by the mouth and by injection, are the most proper remedies.

In persons who never have had any regular fit of the gout, but whose constitution and manner of living seem favourable to the production of the complaint, and of an age when it commonly makes its appearance, great caution is necessary in treating any disorder with which they may happen to be attacked. This remark holds particularly with respect to evacuations; in the regulation of which it will be proper to pursue such a method of cure, as that, whilst adapted to the apparent disorder, it may not prove injurious should the real cause of the symptoms be the gout in disguise.

It is a great desideratum in practice to devise a medicine calculated to eradicate the gouty diathesis altogether from the habit, but no other means have yet been discovered than a strict attention to diet and regimen. In the intervals we must endeavour to prevent a return of the paroxysms, or to render them less violent, by temperance in both eating and drinking, regulated according to the age, habits of life, and constitution of the patient; it seems very probable that a diet consisting of milk, vegetables, and water, would prevent the recurrence of the disease; but in general, fish, eggs, the white meats, and weak broths, may be taken in small quantities once in a day, and a little salted meat may be eaten occasionally, and weak wine and water or small beer may be taken at meals. In the decline of life, or when the constitution is much debilitated, this abstemious mode of living must be commenced with caution, as it might be the means of inducing more violent and dangerous fits of the gout; and in fact, a change from the use of animal food and strong liquors, can only be adopted with safety by slow degrees. To use light suppers, to avoid night watching, and to rise early, are objects of great importance; and a circumstance no less beneficial, is, to guard against vexation of mind. Moderate labour, or gentle exercise, as riding on horseback, or walking, is highly requisite; cold and moisture must be carefully avoided, and the feet should be kept constantly warm and dry, and the bowels in a soluble state. The tonic remedies, as cinchona, quassia, and chalybeates, ought to be occasionally directed, and

the alkalies in various forms, with lime water, soap, and the absorbent earths, may be added to considerable advantage.

It is deemed peculiarly proper here to notice what has been termed the French pacific remedy, the *eau medicinale d'Husson*, so highly famed for its almost infallible powers in the cure of gout. This remedy was discovered about forty years ago, by M. Husson, a French officer, and it has been so highly celebrated in different parts of Europe, as to command the enormous price of from one to two crowns a dose. After the most thorough investigation of the subject, Dr. Edward G. Jones, member of the Royal College of Physicians, London, has published the most unequivocal evidence of the superior powers of the *eau medicinale*, in curing the most distressing paroxysms of gout. His experience of its efficacy has been extensive, and we have his authority for asserting that this singular remedy exerts an extraordinary influence over the gout; and that it will safely and almost immediately remove, often by a single dose, the severest paroxysms of this cruel disease. It is not, however, asserted, that it effects a radical cure, and eliminates the gouty diathesis altogether from the system, but its operation is different from that of any remedy hitherto employed, and it removes the paroxysms as often, and almost as soon as they occur. It appears to be a powerful sedative, diminishing almost immediately the irritability of the system; hence it allays pain, induces sleep, reduces the pulse, and abates fever. The full dose of this medicine, according to Dr. Jones, is about two drachms for an adult, mixed with an equal quantity of water, and taken on an empty stomach; its operation may be promoted by peppermint, pennyroyal, or ginger tea. It in general occasions some nausea and vomiting, followed by bilious stools. A single dose will often carry off an attack, but it sometimes requires to be repeated in under doses, and much advantage has often been derived from small doses taken daily for a length of time. Some instances have been recorded of its violent effects when exhibited in a dose disproportionate to the constitution and particular circumstances.

The discovery of the particular composition of the *eau medicinale* was considered as a very desirable acquisition, and the importance and popularity of the subject occasioned various attempts for that purpose. To the ingenuity of Mr. J. Moor, member of the Royal College of Surgeons, London, the public are indebted for a composition, which if not identically the same, bears a strong

resemblance to *eau medicinale*, in smell, taste, and dose; and also in all its effects, so far as it has been tried in the cure of gout. The composition of Mr. Moor consists of wine of opium, one part, wine of white hellebore, three parts, made by infusing for ten days eight ounces of the sliced root of that plant in two and a half pints of white wine, and strained through paper. This compound, when exhibited in doses of from one to two drachms, has in a variety of instances effected a speedy cure of gouty paroxysms. There are indeed well attested examples where the most painful gouty affection has yielded to a single dose of about one drachm, and the instances of its failure have hitherto, it is believed, been more rare than can be said of any other remedy. It has been observed that beneficial effects may more certainly be expected when it excites some degree of nausea and vomiting, which an over dose like *eau medicinale* seldom fails to induce.

More recently, however, the fact has been announced, that Mr. Want has discovered the composition of a medicine which possesses the power of removing the paroxysms of gout in a degree fully equal to the genuine *eau medicinale;* and has had ample experience to satisfy himself of the identity of the two medicines. The basis of this composition is the *colchicum autumnal*, or meadow saffron. The tincture is made by infusing for two or three days four ounces of the root of this plant in eight ounces of alcohol or wine. An infusion of the fresh or dried root in water is said to be equally efficacious. The dose of either the tincture or infusion should be the same, and should vary according to the constitution of the patient. Upon an average, two drachms, or two ordinary tea-spoonfuls is the proper quantity for an adult. Mr. Want's experiments have extended to at least forty cases, followed by results of the most satisfactory nature, the paroxysms being always removed, and in several instances, no return of the disease having taken place, after an interval of several months. He is authorized by Sir Joseph Banks, and other highly respectable characters, to publish their decided conviction that his medicine and the *eau medicinale* are the same, as far as they are enabled to judge from the appearance, taste, and smell.

Class III.—CUTANEI.

Affections of the skin, manifested by discolorations, spots, and excrescences, and which have obtained various names, according to the difference of their forms; some with fever, others without fever, and some affecting persons but once in their lives.

Order III.—EXANTHEMATA.

RUBEOLA, OR MEASLES.

The measles is an infectious disease, and when genuine, it never attacks the same person more than once; it is most prevalent in the spring season, and generally disappears in summer. About twelve or fourteen days after exposure to the infection, the febrile symptoms usually appear; on the first and second days, the patient complains of irregular shiverings alternating with heats, general debility, languor, loss of appetite, has a white tongue, thirst, pain in the back and limbs, slight sore throat, hoarseness, with dry cough and sneezing, weight and pain across the forehead, giddinesss, drowsiness, frequent and irregular pulse, costiveness, and high-coloured urine. On the third or fourth day, the symptoms become more severe; the eyes are tender, watery, and appear as if inflamed, the eyelids and face are often swelled, the nostrils discharge a thin serum, and the patient sneezes more frequently, and sometimes vomits. There is now often some difficulty of breathing, with pain and tightness in the chest. The eruption appears betwixt the third and sixth day of the fever, but most frequently on the fourth. It is first visible in the throat and back part of the roof of the mouth, then on the forehead, after that on the face and neck. The next day it appears on the breast, and by the evening it covers the body and extremities. The eruption consists at first of small red spots, apparently a little raised, like papulæ, but without vesicular tops. Then extending so far as to form an oval or irregular figure, slightly elevated, but flat, resembling flea bites, they run together in clusters or large patches. The eruption differs from the small-pox in not rising into prominent pimples, but in passing the finger over the surface, the skin feels unequal, from the elevation of the spots and patches. On the face, the eruption

maintains its redness for two days, but on the third, the colour is changed to a brownish red; and in a day or two more it becomes dry, and, falling off in scales, at length entirely disappears. The fever, cough, and difficulty of breathing, are not abated by the eruption, but if there was any vomiting before, it generally ceases.

Sometimes the measles are succeeded by a violent looseness; and when this happens, the case is attended with danger. The most fatal period in this disease is about the ninth day from the beginning of the complaint, when many are carried off by an inflammation on the lungs. The most favourable symptoms are a moderate looseness, a moisture on the skin, and a plentiful discharge of urine. When the eruption suddenly falls in, and the patient is seized with delirium, or when the measles become soon of a pale colour, with great weakness, restlessness, vomiting, and difficulty of swallowing, and when purple or black spots appear, the greatest danger becomes apparent. When the disease is succeeded by a continuance of the cough, accompanied with hoarseness, a consumption of the lungs may be apprehended.

In the mildest form of measles, the patient is scarcely deemed a subject of medical attention, and little is necessary to be done, except abstinence from animal food, or heating applications; and drinking freely of barley-water, infusions of mullein or balm, with decoctions of liquorice and marsh-mallow roots. If the efforts of nature be too weak to throw out the eruption, this must be assisted by blisters and proper cordials, as wine whey, or saffron tea, with a few drops of the spirit of hartshorn, or spirit of sal ammoniac; but when the fever is too violent, and there be inflammation of the chest, with pain and great oppression of the lungs, these may be restrained by bleeding. Leeches may be employed for very young children, and the lancet for those of five or six years of age. The quantity of blood to be drawn should not exceed two or three ounces, and a repetition of the operation is not to be advised.

An emetic should be early administered, and the saline diuretics with antimonials, must not be neglected, as they determine to the surface, and abate the febrile symptoms. But by far the most efficient means of cure, are to be found in mild purgatives. The intestines require to be thoroughly evacuated from day to day. Moderate doses of calomel, or sulphate of magnesia and manna, will compose a laxative course by which those unpleasant symptoms of pneumonia and catarrhal inflammation which often occur

about the ninth day, are effectually prevented; and if steadily persisted in from the beginning, will in general carry the disease to the desired favourable termination. Other remedies, however, are to be directed according to their respective indications. When the febrile symptoms are high, the head much affected, and the difficulty of breathing is considerable, blisters should be applied to the breast and neck. When the cough and restlessness are urgent, recourse must be had to opiates, as the syrup of white poppies, or the elixir paragoric. The feet should be bathed in warm water, and the steam from an infusion of mullein flowers ought to be inhaled into the lungs, not indeed too hot, but moderately warm, and so managed by holding the vessel under the face and covering the head, as to give the mouth and eyes the benefit of the steam. The patient should neither be confined in close hot rooms, nor exposed to wet and cold air.

For relieving the cough, the syrup of squills, or spermaceti, and sugar candy, pounded together, will be serviceable, or some of the preparations to be found in the Appendix. If purple or black spots, offensive breath, and high coloured urine, indicate a putrescent state of the blood, the Peruvian bark and elixir vitriol, in due quantities, will be indispensably necessary. Should a diarrhœa succeed to the measles, blood-letting may be proper; but the disease will commonly yield to tincture of rhubarb, with a little cinnamon and a few drops of laudanum. After the patient has become convalescent, a few doses of physic will be advisable. But should a cough, with difficulty of breathing and other symptoms of consumption, remain, small quantities of blood, according to the strength of the patient, should be drawn at proper intervals, and a milk diet, free air, and exercise on horseback, should be directed.

Some attempts have been made in Europe to propagate the measles by inoculation, with the hope of rendering the disease more mild, but the experiments have not in general been attended with the success anticipated, and it is not probable that the practice will ever be established.

SCARLATINA.

This generic term comprises the three species, scarlatina simplex, scarlatina anginosa, scarlatina maligna. This disease has

long been considered as highly contagious, spreading epidemically through villages and districts, with an alarming degree of mortality. In the years 1735 and 1736, it prevailed extensively throughout our country in its most malignant form, and it was estimated that in Massachusetts about one thousand persons became its victims.* It is recorded that in 1741, 1746, and 1760, the disease termed *anginosa maligna*, or the putrid and ulcerated sore throat, prevailed and extended through the colonies with mortal rage, in opposition to the united endeavours of the faculty. It swept all before it, and some villages were almost depopulated. It appeared again in 1784, and spread through the New-England States; at subsequent periods it has been recognized either as an epidemic, or as sporadic cases, without assuming in a high degree characteristic contagious powers. Scarlatina, in all its forms, is produced by the same specific contagion; and frequently the symptoms are so blended in the first onset, that the particular species can scarcely be designated. It may be communicated by the contaminated atmosphere, and by simple contact of the patient, either in the heat of summer or cold of winter; but it most frequently occurs in autumn, and becomes a very prevalent epidemic, often continuing through the succeeding summer months. It frequently attacks young people in the most sequestered situation, where communication with the sick had been impossible, appearing in some families and passing others contiguously situated. It produces its operation on the system about the fourth or fifth day after exposure to the contagion, and it not unfrequently happens that persons exposed escape the disease, as in other contagions, and although in general persons are not susceptible of a second attack, some instances to the contrary have undoubtedly occurred. Children and persons of a weak lax habit are most commonly the subjects of this disease. In its mildest form it is known as the *simple scarlet fever*, receiving its name from the singular colour which pervades the skin, re-

* Dr. William Douglas, a respectable physician of Boston at that day, published a valuable practical essay on the *anginosa ulcusculosa*, which prevailed in New-England in 1735 and 1736, in which he detailed the characteristics of the disease, and the method of treatment. He says, "*most of those who died of the physician, died by immoderate evacuations.*" It has been related by tradition, that the physicians of that day, or of some other period, adopted the plan of bleeding from the vein under the tongue, and although in almost all instances it proved fatal, the practice was persisted in longer than could have been deemed warrantable.

sembling the shell of a boiled lobster, or appearing as if diffused with red wine. It is generally ushered in with slight chills, like other fevers, but without much sickness; these are followed by heat of the body, thirst and head-ach, sometimes in a very moderate degree, at others more violent. The pulse is greatly accelerated, the respiration is frequent or irregular, the eyes sunk and the eyelids turgid, and red on the inside. About the second or third day, the face begins to swell, and the eruption makes its appearance in the form of a red stain or blotch, which disappears upon pressure, but soon returns again. It now spreads all over the skin, which often appears uniformly red, and in three or four days the redness disappears, and the outer skin peels off in branny scales, which in many cases returns for two or three times. Sometimes spots break out on the body like the stinging of nettles, attended with troublesome itching; but in three or four days, like the former, they entirely cease, and are followed by a separation from the skin in extreme small scales. This is by some called *canker rash* when attended by a slight soreness of the mouth. The scarlet fever may be distinguished from the measles by the eruption being less uniform, and more like a red coloured effusion, than distinct spots, and by not being accompanied with any cough or watering of the eyes, and the efflorescence of the measles does not appear till two days later than scarlet fever. The simple scarlet fever, when unattended with sore throat, requires little or no medical prescriptions; abstinence from animal food, and the avoiding exposure to cold air, drinking freely of diluting liquids, and taking a dose or two of epsom salts, will in most cases answer all the purpose.

SCARLATINA ANGINOSA.

This species assumes a more serious aspect, the morbid virus being chiefly directed to the fauces, and the cutaneous efflorescence is very slight, consisting of a few scattered patches only. It commences suddenly with shiverings, anxiety, nausea, and vomiting, succeeded by heat, restlessness, thirst and oppression of the breast; great dejection of spirits, with faintness when attempting to sit up. The pulse is extremely rapid, rising to 120 or 140 in a minute, though low and unequal. The tongue is moist, the eyes heavy and

watery, the countenance frequently full, flushed and bloated, though occasionally pale and sunk; the breathing is quick and laborious, the skin extremely hot, and in many cases there is an eruption or efflorescence about the second or third day, in large patches of a dark red colour, about the face and neck; which by degrees extend over every part of the body even to the extremities of the fingers. The urine is commonly pale, thin and crude, but in adults in small quantity, high coloured or turbid like whey. The patient complains of a stiffness in the neck, with acute pain in the back of the head. The throat is sore and inflamed, exhibiting a shining redness of a deeper colour than in common inflammatory sore throat, and interspersed with pale or ash coloured spots. In many cases the affection of the throat is among the first symptoms, a dark red line extending along the velum pendulum palati, and lower part of the uvula. The breath is highly offensive, the tongue is covered with a yellow mucus or thick brown fur, and the inside of the lips is beset with vesicles containing an acrid matter, which excoriates the corners of the mouth and other parts. In the progress of the disease, the inside of the nose becomes red and inflamed, and a thin acrid matter issues from the nostrils which corrodes the skin wherever applied. There is sometimes a delirium, though the symptoms appear slight; the swallowing is difficult, and more so on swallowing the saliva only, than of any liquid or soft diet. A vomiting and purging is most common with children, and when the effloresence or eruption appears about the second or third day these evacuations generally cease. But children have sometimes died on the second day of the attack.

The more formidable and more malignant species of scarlatina is now to be noticed. The distinction, however, in the opinion of Dr. Good, is altogether unnecessary, and leads to no advantage, either pathological or practical. With the exception of a higher degree of danger in one than the other, from the fever assuming the character of a more malignant typhus, both forms are the same, they are equally produced by a specific virus, equally contagious and at times epidemic.*

* Professor Hosack, of New-York, coincides with Willan, Bateman and Thomas, in the opinion that scarlatina and cynanche maligna should be considered as distinct diseases.

SCARLATINA MALIGNA.

This is the cynanche maligna of Cullen, the ulcerated or putrid sore throat of Huxham and other authors. This form of the disease has several symptoms in common with scarlatina anginosa. It comes on with rigors, dejection of spirits, pain in the head and back, giddiness, vomiting and much general oppression. The eruption comes out in blotches, or small points scattered over the body and extremities of a dark purplish or livid hue. The fever is intense and progresses with rapidity, but manifesting an exacerbation in the evening and slight remission in the morning. The pulse is small, indistinct and irregular. There is a very great determination of blood to the brain, producing redness of the eyes, intolerance of light, throbbing pain of the head and delirium or coma. The whole neck sometimes swells and assumes a dark red colour. It sometimes happens that cynanche maligna appears without any affection or efflorescence of the skin, as scarlatina in some cases presents itself without any ulceration of the throat. As the sloughs about the fauces spread, they generally become of a darker colour, the whole internal fauces are at length covered with thick sloughs, which when they fall off discover ulcers very deeply seated, and the parts appear quite black, and the sloughs often extend throughout the whole of the alimentary canal. The eruption sometimes suddenly recedes, and alarming train of symptoms ensue, as also when the eruption suddenly assumes a very pale and livid appearance. The symptoms called putrid and malignant are now conspicuous, a dissolved state of the blood is indicated by inky petechiæ, oozings of black gore from the nostrils, gangrenous appearances of the throat, spots upon the skin, and hæmorrhages from various parts of the body. Cynanche maligna generally arrives at its height about the fifth or sixth day, but in some fatal cases the scene closes as early as on the third day. The inflammation, as in cynanche tonsillaris, on some occasions affects the eustachian tube, producing ulceration in the internal ear, and often extending to the parotid maxillary and other glands of the fauces, which become swelled and painful. The malignant or putrid sore throat may be distinguished from the inflammatory, by the looseness and vomiting; the puffy and dark coloured redness attending the swelling, and by the fœtid ulcers of the throat, covered with white or ash coloured sloughs. It may also be distinguished by the slight

delirium appearing early in the disease; and by the sudden weakness with which the patient is seized. Where the pulse about the fifth or sixth day of this disease becomes more moderate and stronger, the respiration freer, the skin soft and moist, the florid colour begins to return to the fauces and a better matter to be discharged from the ulcers, and when the eyes are bright and there is no great degree of weakness or faintness, a favourable termination may be expected. But if the weakness be great, if the pulse should be weak and small, accompanied with a looseness or shivering; if the eruptions disappear or become livid; if the eyes look very dull, and the nose bleeds, and there be much fœtor of the breath with a cadaverous appearance of the body, the event will be fatal. And if on the third or fourth day, respiration grow more laborious, with a peculiar kind of catching the breath, or double breathing; and an anxiety of five or six minutes continuance comes on, three or four times in an hour, such as induces the patient to bite his hands and arms, death may be expected on the fifth day.

Scarlatina in all its forms is a disease of debility; it prostrates both the body and mind, but it has in many cases a peculiar tendency to weaken the absorbent system, and produce dropsy. After a crisis the patient is affected with an universal tumefaction from head to foot, the cellular membrane being puffed up like a bladder, and the secretion of urine is greatly diminished. Another singular occurrence fell under the observation of Dr. Rush, when scarlatina anginosa appeared in Philadelphia, in 1783, and 1784; many patients after a crisis were seized with a swelling of the wrists and ankles, accompanied with redness and great pain, in every respect similar to acute rheumatism.

Mode of Treatment.

In detailing the medical treatment of scarlatina, it is first to be observed that this must vary according to its appearances and forms, in different seasons and circumstances. In both forms of scarlatina, anginosa and maligna, inflammatory symptoms have been known to prevail to such a degree as to indicate the use of the lancet at the commencement, and the disease appeared in that character in Philadelphia and its vicinity in 1783, and 1784, when in many instances Dr. Rush was induced to have recourse to blood-letting,

but this evacuation has been considered as rather out of course in practice in this complaint, and it should not be resorted to without the most careful discrimination. When about the year 1735, the *malignant ulcerous sore throat* prevailed as a mortal epidemic in New-England, and New-York, it baffled the skill of physicians, till, at length, recourse was had to the sovereign powers of mercury, to which the scourging pestilence yielded in a surprising manner. The awful mortality was speedily checked, and the disease brought in a great measure under control. The administration of calomel has been generally adopted in practice as the most efficacious remedy in the first stage of this disease in all its modifications; as it operates upon all the excretories it is commonly to be preferred to any other purgative, or it may be combined with jalap or rhubarb. But the administration of an emetic is of the first importance, and the earlier it is exhibited, the greater will be the probability of diminishing the violence and shortening the duration of the disease. Dr. Rush adopted the practice of adding calomel to his emetics, after which he gave calomel in small doses, and combined it also with his gargles. If the calomel did not sufficiently deterge the intestines, he directed it to be followed by some mild laxative. By thus evacuating the stomach and bowels of their offending contents, the disorder has sometimes been arrested at the beginning. The powder of ipecacuanha will in general prove sufficiently powerful and less debilitating than antimonials; but on some occasions it may be advisable to add two grains of turpeth mineral, and the prescriber must not rest satisfied until he is assured of its having had its due effect, in cleansing the stomach. During the whole course of this disease emetics should be occasionally administered; they have an excellent effect in equalizing the circulation, arousing the system from a state of torpor, encouraging perspiration, and in cleansing the mouth and throat of a load of mucus, by which those parts are clogged. Calomel as a purgative, aided by some mild laxative, as sulphate of magnesia or laxative injections, must be repeated according to the effect produced. In the mean time a moderate course of calomel as an alterative, may be considered as the most successful mode of practice. This method, however, must be considered as inadmissible when the putrid tendency is great, and considerable debility has ensued. In this state every debilitating medicine should be employed with the greatest circumspection, as it too frequently happens that even the mildest cathartic depresses

and sinks the patient. With the view of determining to the surface, the spirits of Mindererus or the neutral mixture, with a small quantity of tartarized antimony, should be directed in doses of a table-spoonful every two or three hours, and on some occasions Dover's powder may be preferred. A powder consisting of four grains of camphor, and ten of cream of tartar, or when much febrile heat attends, the same quantity of sal nitre will be productive of beneficial effects. A blister has sometimes been advised to the throat, but it will be preferable to apply a poultice of mustard with meal and vinegar, and continue it as long as it can be endured. Cold water applied to the throat, and by way of gargle, has been known to be useful. Should the eyes appear much inflamed and delirium prevail, drawing blood from the temples by leeches might be likely to afford relief. Scarlatina in its mild form is not often attended with great danger, but we ought to be constantly on our guard in this insidious disease, as the severest cases of cynanche maligna often make their attack in so mild a manner, that for some time the disease assumes the most favourable form, when in an unexpected hour the symptoms denoting its most malignant type are ushered in, and the patient is sometimes cut off before danger is suspected. Those rheumatic, and anasarcuous swellings which sometimes appear after a crisis, may be cured by the use of diaphoretic and diuretic medicines, joined with tonics and a nourishing diet. But Dr. Rush succeeded in removing these complaints in every instance, by the use of cathartics of calomel and jalap.

The affusion of cold water, or sponging the surface of the body, has been practised in scarlatina of late years with remarkable success. According to Dr. Currie, the cold affusion in several instances has extinguished scarlatina in its incipient state, so as to prevent either efflorescence, or any affection of the throat from taking place. The great utility of this remedy is fully corroborated by the experience of Dr. Thomas, and other respectable authorities. This very efficacious agent, however, is to be employed only on the first onset of the disease, when there is intense heat and dryness of the skin. When the least chilliness prevails, or where there is any tendency to perspiration, the application of cold water might be productive of much danger. In cases where from several days continuance of fever, extreme debility, with small irregular pulse have ensued, the cold ablution is deemed improper; it will be advisable to sponge the body with tepid water or with the

addition of vinegar. On the other hand, should a coldness and torpor of the surface and extremities occur, the warm bath, or other means of restoring warmth and equable excitement must be employed.

But so soon as a putrid tendency and a great prostration of strength has become manifest, the objects which should excite our chief attention are, to support the patient's strength, to obviate the putrid tendency of the humours, and to cleanse the ulcers of the mouth and throat. Should, therefore, the inflammatory symptoms not run high, or these having subsided, the tonic and antiseptic remedies are to be applied with the utmost assiduity. The cinchona and wine must be administered to the fullest extent of the condition of the stomach to receive them. If the bark in substance cannot be retained on the stomach, the decoction or infusion should be substituted, and the elixir of vitriol, or muriatic acid ought at the same time to be freely employed as directed in typhus gravior. As an excellent cordial and antiseptic, I can with great confidence recommend a wine made from the officinal black currant. If this be administered in a manner suited to the urgency of the case, even a bottle in twenty-four hours, it will produce the happiest effects by counteracting the putrid tendency and supporting the energy of the system. When children cannot be prevailed on to take the bark in any form, it should be injected into the intestines with a syringe. Information has reached me from a source deserving of confidence, that a decoction of the root of sophora tinctoria, has been exhibited in this disease with the most satisfactory success, and is even esteemed by some, as a more efficacious antiseptic than the cinchona. It is given in doses of a table-spoonful every few hours, but in diminished doses, if it prove cathartic. Used as a gargle, it certainly deterges and heals the aphthous ulcers in a wonderful manner. As auxiliary remedies, nothing can be more essential than the application of proper gargles to the mouth and fauces; and particular attention should be paid to this point in cases of children, who are incapable of gargling, that the remedy be properly and thoroughly applied by injecting with a syringe, to clean the throat before swallowing any food or drink, as otherwise, the sloughs and putrid discharge from the ulcers may be carried down and greatly aggravate the complaint. Much benefit will be received by a few grains of calomel, either by itself or mixed with honey, and often applied to the tongue and ulcerated

parts of the mouths of children. The following may be regarded as among the best preparations for the purpose of gargling. Take a handful of red rose leaves, a piece of myrrh the size of a nutmeg, and three or four figs ; simmer the whole in a pint of pure old cider, the older the better, then strain and sweeten it with pure honey. An excellent gargle may be prepared by diluting the muriatic acid, and sweetening with honey so as to be in some degree palatable ; in cases of troublesome aphthæ, or erosions of the mouth and tonsils, it allays the intolerable heat and dryness of those parts, and induces an agreeable cooling sensation. But a simple decoction of the root of marsh rosemary, (statice Caroliana) forms one of the most efficacious gargles that can be employed. It is considered as one of the most intense and powerful astringents and antiseptics in the vegetable Materia Medica. In the ulcerated sore throat, in 1785 and 1786, Dr. William Baylies, of Dighton, and other practitioners experienced the greatest benefit from the use of this article as a gargle. It appears by Thomas' Modern Practice, that the throat distemper prevailed among the children in the West-Indies a few years since, with the greatest mortality, in despite of the utmost endeavors of the physicians, till at length the superior efficacy of the following remedy was discovered. Take two table-spoonfuls of capsicum, or Cayenne pepper, and two tea-spoonfuls of common salt, infuse these in half a pint of boiling water, and then add the same quantity of warm vinegar ; after standing for about an hour the liquor is to be strained through a fine cloth, and two table-spoonfuls given for an adult every half hour, using it also as a gargle. "The speedy and good effects," says the author, "produced by the use of this medicine in every case in which it was tried, evidently points out the utility of giving warm aromatics, which will bring on a timely separation of the sloughs, as well as other antiseptics to correct the tendency in the parts to gangrene."*

The carbonic acid gas, has of late been employed as an antiseptic in angina maligna with some advantage ; the most eligible way of introducing it into the stomach, is to direct the patient to swallow ten grains of salt of tartar, or other fixed alkaline salt, dissolved in a cup of water, immediately after which two table-spoonfuls of lemon juice, or sharp vinegar, must be swallowed.

* Dr. Kellie, first introduced the Cayenne pepper, in this disease. See Med. Comment. of Edinburgh.

During the act of effervescence, the gas will be extricated, and exert its immediate effect on the stomach. It is on the principle of its containing a portion of fixed air, that yeast has been recommended in both malignant sore throat and putrid fever. When given in doses of two table-spoonfuls every three hours, yeast has proved manifestly beneficial. If the patient should be troubled with a diarrhœa, every attempt should be made to restrain it, as in every stage of the disease, this is a dangerous symptom. A decoction of catechu, or the root of tormentilla, being excellent astringents, may be employed for this purpose with decided good effects. A little wine or brandy mulled up with cinnamon or nutmeg, may also be advised, and small doses of laudanum will sometimes be requisite. Violent vomiting is to be appeased by the saline draught in the effervescing state, by small doses of laudanum and peppermint, and by the application of tincture of opium and camphorated spirits to the region of the stomach.

There is some diversity of opinion respecting the employment of blisters in any form of this complaint, their utility it is said has not been experienced in practice, and as they are attended with inconvenience, and interfere with more useful applications, they may perhaps in most cases be omitted. When angina visited Boston in 1802, Dr. John Warren observed that "for swellings of the parotid glands, nothing was so efficacious as the application of cold water, or vinegar and water, by cloths kept constantly wet with these fluids. The drinking of cold water was in some instances attended with the happiest effects." In some instances a suppuration of the parotid glands will take place; when this is indicated emollient poultices should be applied till maturation is complete, when the tumour must be opened, and the ulcer is then to be dressed with digestive ointment.

In some cases there happens a discharge of blood from the nose, mouth or ears, which not being critical, but on the contrary threatens the greatest danger, ought to be restrained if possible by administering freely the mineral acids internally, and by the external application of tents dipped in some powerful styptic, as a solution of blue vitriol or alum. The safest rule, in the treatment of this disease, is to have no general rule at all. Each epidemic varies in its character, and the treatment must be modified accordingly. It has already been mentioned that it was the New-England practice on former occasions, to administer a moderate course of mer-

cury so as to act upon the system at large for the cure of scarlatina, and that mode of treatment was eminently successful. Dr. Rush also employed calomel in small doses in all stages of scarlatina anginosa which appeared in Philadelphia, in 1783 and 1784. In subsequent visitations, however, the disease has appeared to be somewhat different, and the predominant symptoms of putrid diathesis, and of debility, have deterred many physicians from resorting to the same mode of treatment. This shews the high importance of a judicious discrimination at different seasons of its prevalence, as well as peculiarities of personal circumstances.

Through the whole course of this disease the patient should be supported with nourishing food, light and easy of digestion, consisting chiefly of vegetable substances, as oat gruel, rice, sago, arrow root, and panado. The ordinary drink may be wine whey, and barley water, acidulated with any of the vegetable acids.

When the patient is happily brought to a state of convalescence, some gentle laxative medicine should be given occasionally, to carry off the putrid dregs that may remain in the intestines; and if he continues weak he ought to persevere for some time in the use of the Peruvian bark, and elixir vitriol, with daily exercise and a clear air. It is of great importance to guard against a relapse during convalescence. Dr. Armstrong has seen many instances of relapse in fever, and some of death, from eating apples, or the pulp of oranges, or broth. A boy, in convalescence, after scarlet fever, was allowed to eat two raw apples. The fever returned and put on the form of typhus. Purgatives were given for five or six days, the apples were evacuated without being digested and the child died. Those dropsical swellings, which occur in this disease, are generally produced by exposure to cold air and other irregularities.

As respects the management of the patient, the greatest attention to cleanliness must be observed. Whatever is voided by stool ought to be speedily removed, the linen and every infected article should be frequently changed and cleansed. The chamber should be sufficiently ventilated, but not so as to give any check to the perspiration, or efflorescence, and the floor should be often sprinkled with vinegar. The patient must not be surrounded by more attendants than are necessary, and those should carefully avoid inhaling the breath of the sick. The Cayenne pepper as mentioned above is affirmed to be an excellent preventive medicine. According to Dr. Thomas, "by giving the attendants of the sick and

others who may unavoidably be exposed to infection, a tea-spoonful every two or three hours, using it at the same time as a gargle, the preventive effect of the remedy is said to have proved certain. It seems to act by producing and keeping up a regular excitement in the tonsils, uvula, and fauces, and thereby enabling them to resist the sedative effects of the poison which is inhaled." But an expedient still more important consists in a speedy separation of the sick from the well, and of such as have been exposed to infection, as much as possible from all others.

The period which elapses from the reception of the contagion, to the appearance of the symptoms, is said to be from three to six days. Whenever the disease is recognized, whether in a private family or boarding school, or other assemblage of children, every person affected should be separated without delay from all the rest, until a sufficient time has elapsed to secure from danger of infection. These are the most probable means of checking the progress, and effecting the total extinction of this fatal disease.

According to Dr. Willan, persons under the influence of contagion do not communicate it until they are actually affected with the fever and efflorescence, but it may be conveyed from one to another, by means of cloths, or a handkerchief, which has received the vapour from the lungs, or any of the discharges from the mouth or nose of the patient. Convalescents, he observes, from the disease, notwithstanding the minutest attention to cleanliness and change of apparel, remain for two or three weeks capable of affecting others. Even the slightest case of simple scarlet fever, he thinks may produce in some, scarlatina anginosa, and in others scarlatina maligna.

In consulting the English authorities, we find them altogether at variance respecting the propriety of abstracting blood from the system in scarlatina. Drs. Thomas and Good, are of opinion that it is scarcely admissible, in any instance ; while Dr. Armstrong is a strenuous advocate for the use of the lancet, and other depleting means, when cautiously and judiciously directed. He divides scarlatina anginosa and maligna into three stages ; the primary or forming stage, the stage of excitement, and the stage of collapse. His rules of treatment are as various as the character of the disease. In the early stage of simple scarlet fever, he directs a brisk purgative of calomel, after which an antimonial emetic, or a combination of the tartrite of antimony with the sulphate of magnesia, or

of the pulvus antimonialis with calomel. This will rapidly reduce the heat and quickness of the pulse by acting as an emetic and cathartic at the same time. If, however, much external heat should remain, the tepid bath is to be applied, and often repeated until the circulations are equalized. In more formidable cases of scarlatina anginosa or maligna, Dr. Armstrong, as early in the first stage as possible, administers a full dose of calomel, after which a mild emetic, and immediately has recourse to the warm bath in which some salt is dissolved. If decided marks of congestion, or visceral oppression are observed, he takes a small quantity of blood from the arm. In the stage of excitement, with a hot skin, he employs the cold or tepid affusion, preferring the latter, which to be efficient should be used six or eight times every twenty-four hours, and the purgative medicine should produce four or five copious motions in the day. In some of the most alarming cases of cynanche maligna, as soon as the stage of excitement became apparent, by the whole surface being morbidly hot and dry, Dr. Armstrong has known the disorder to he completely arrested by five or six repetitions of the cold affusion, when promptly employed, and repeated for the first twenty-four hours as often as the burning heat and dryness of the skin returned. When the excitive stage of this form of the disease is fairly revealed, we should act with the greatest decision, it should not be allowed to proceed many hours without being checked ; every moment is precious, as the general excitement may soon effect the destruction of some vital organ. Instead, therefore, of wine, bark, and aromatic cordials, as recommended by some authors, Dr. Armstrong would not pause an instant, but open a vein in the arm or neck, or a branch of the temporal artery, and allow the blood to flow until it is stopped by approaching faintness. Although one large bleeding is preferable to repeated smaller ones, yet if a marked relief be not obtained, the operation may be repeated in a few hours after, or some leeches should be applied to the temples or to the region of the liver. Dr. Armstrong has, in some instances, bled twice freely, in children from the arm, the external jugular vein, or from the temporal artery, to eight or ten ounces. In bleeding in the highly conjestive variety of the scarlet fever, the finger should be kept constantly upon the pulse, and if it should be found rising in force, the evacuation may be carried to a moderate extent ; should it continue to sink, it will be no longer safe to continue it. Venesection

must never be carried to fainting in great venous congestions, as it may prove fatal. The head should always be much raised, and after being shaved, it should be repeatedly covered with folds of linen soaked in cold water. This application, in cases so violent, is much superior to blistering the scalp. Immediately after blood-letting, large doses of calomel and jalap, aided by sulphate of magnesia, should be administered, and persisted in until there be a visible change for the better, in every respect. Let it be carefully recollected, however, that these powerful proceedings should be solely confined to the stage of excitement, and within the first thirty hours of that stage. In the stage of collapse, every depleting step will plunge the patient into still greater hazard, if not prove mortal. It must rest with the observing physician to decide whether bleeding or the omission of it will place his patient in the greatest safety. In the stage of collapse, mild laxatives are to be given occasionally combined with some cordials, and in this stage also milk, light animal broths, and similar articles should always be preferred to wine and cordials, because they restore the strength much sooner without the risk of creating any secondary fever.

URTICARIA, OR NETTLE RASH.

This is an eruption in the skin in the form of red spots with white tops, resembling the stinging of nettles, breaking out on the second day, commonly disappearing in the day time and returning at night, with slight fever, and after a few days wholly falling off in minute scales. It is attended by a troublesome heat and itching, and has been known to continue to recede and return at intervals for several months. In some instances, urticaria has been characterized by large wheals or bumps, which on pressure appear of a solid nature, without any cavity or head; nor do they contain any kind of fluid. This is a mild disease, not contagious and seldom requires the use of remedies, though an antiphlogistic regimen is always proper. The itching may be allayed by bruised parsley or camphorated vinegar. An infusion of serpentaria has produced favorable effects, and the cooling saline purgatives will be advisable. An eruption of a very similar nature has been known to arise in particular constitutions from eating mushrooms, crab-fish,

clams, muscles, and lobsters. The effect in these cases is rapid, and the symptoms violent for a few hours, but relief is soon obtained by the operation of an emetic.

Order IV.—PEMPHIGUS, OR VESICULAR ERUPTION.

This disease is of so rare occurrence, that Dr. Cullen and most modern authors confess themselves to be unacquainted with it by personal observation. We have no authentic account of its having appeared in the United States. Pemphigus is classed among the exanthemata, and is said to consist "in eruptions dispersed over different parts of the body, internal as well as external, which gradually rise up into vesicles of about the size of a large nut, containing a yellow serous fluid, that is in some instances of an ichorous nature, and which again disappear in the course of three or four days. By some authors it is described as being attended both by fever and contagion; and by others as being accompanied with neither." An intense burning heat of the skin appears to be a prominent feature of the disease; the sensation it conveys to the patient being somewhat similar to a common scald, with a train of concomitant febrile symptoms.

In this condition of the patient, saline purgatives with calomel are indicated. But where the disease exhibits a putrid tendency, the cinchona bark with wine and the mineral acids must be relied upon for a cure. Dr. Parr mentions several cases which had fallen under the notice of Dr. Withers, in which the fever attending pemphigus was extremely putrid, with many gangrenous sloughs, of a fœtid smell and most dreadful appearance, following the eruption of the blisters, attended with a low delirium for many nights, the greatest dejection of countenance, and prostration of strength. In these cases cures were performed by tonics and antiseptics.

ORDER V.

*Porrigo,** *or Scald Head, Crusta Lactea,* and *Chilblains, or Kibes,* diseases of the class *Cutanei,* will be found among the Diseases of Children in the latter part of the volume.

VARIOLA, OR SMALL-POX.

Few, among the numerous catalogue of diseases, have been a greater scourge to the human race for ages past, than the small-pox. It is a disease highly contagious in its nature, and destructive in its tendency, seizing all descriptions of persons, and spreading consternation and dismay wherever it makes its appearance. This disease appears under two different forms, which are termed the distinct and the confluent, the latter of which is always the most dangerous. The distinct small-pox is preceded by a sense of languor and weariness, redness of the eyes, soreness of the throat, with pains in the head and back. These are soon succeeded by the symptoms of severe inflammatory fever, accompanied by alternate fits of cold and heat, violent oppressive pain at the pit of the stomach, with nausea, and sometimes vomiting. The patient generally becomes exceedingly restless, and even delirious, the skin burning with an uncommon degree of heat. There is generally a costive state of the bowels, and young children are sometimes seized with startings and convulsion fits, which in this disorder are not unfavorable, but indicate a speedy appearance of the eruption. On the third or fourth day from the first seizure, the eruption is thrown out in distinct red spots, like flea-bites, on the face, arms, and legs, which soon extend over the whole body; and when the eruption is completed, if not very numerous, the febrile symptoms subside. The pustules are from their first appearance distinct from each other, gradually assuming a conical form, and on the fifth or sixth day, begin to turn white on their tops; and by the eleventh day, having filled, and acquired their greatest size, they are entirely white or of a yellowish colour. Their bases, however, are red and inflamed, during the whole course of the

* Dr. Willan has substituted the term *Porrigo* for that of tinea capitis, and Dr. Rosack has adopted it in his Nosology.

eruption; but when the pustules are entirely filled, they assume a brownish hue, and soon begin to shrivel, and the matter which exudes forms a dark coloured crust on the skin. These in a few days fall off, leaving a redness, and sometimes a small pit, which remains during life. A tension of the skin, and swelling of the face and neck, with some difficulty in swallowing, generally accompany even the mildest sort of this disease.

The confluent small-pox is preceded by a much greater degree of fever, and that of the low kind. The eruption also appears sooner, is much smaller, and more numerous; the spots assume a crimson colour, and do not rise and fill like the distinct kind, but run into one another, and often cover the whole face, very much resembling the measles, during the first days of the eruption. A swelling of the head and neck takes place at the commencement of the eruption, and becomes formidable in appearance, often closing both the eyes, but subsides about the tenth or eleventh day. The inside of the mouth and throat become swelled in a very considerable degree, and is accompanied in children with a diarrhœa, and in adults, with a copious discharge of saliva, which is frequently so acrid as to excoriate the mouth and throat. When the pox are of a livid brown colour, or small and flat, with black specks in the middle, and contain a thin watery humour; and when they are very numerous on the face, and run into one another, an unfavourable event may be apprehended. But still greater danger is indicated, when purple, brown, or black spots are interspersed among the pustules, as they afford a sign that the blood is in a putrid state; and if accompanied with bloody stools, or urine, and a swelling of the abdomen, a speedy dissolution will inevitably ensue. When the face does not swell, or the swelling subsides before the pox comes to maturity, the case is unfavourable; but when at the same time that the swelling of the face subsides, about the eleventh or twelfth day, the hands and feet begin to swell, we may in general pronounce the case to be favourable. In the confluent small-pox, the secondary fever, as it is termed, makes its appearance about the time of maturation, or when the pustules begin to blacken on the face. In those cases where the disease terminates fatally, the fever increases, the whole surface of the body becomes of a pallid hue, the pustules are flaccid, and the swelling of the head subsides without that of the hands and feet succeeding.

It is truly fortunate for mankind, that ignorance and prejudice, which formerly held such unbounded sway in this destructive disease, have at length given place to a more rational and successful method of treatment. The absurd practice of increasing the heat of the body by every means which folly could suggest, and of allowing dirt and filth to accumulate, by wearing the same linen and bed-clothes during the whole disease, has been the bane of thousands. Universal experience and observation have decided the point, that by augmenting the febrile heat, either by external applications, or by the administration of internal heating medicines and drinks, the number of pustules and violence of the disease may always be increased, and that by a contrary mode of treatment, these evils may be prevented. A strict pursuance of the antiphlogistic plan, ought undoubtedly to be recommended. At the early stage, and during the eruptive fever, the patient should abstain from animal food, and from every thing that can tend to inflame the blood. He should drink freely of barley water, balm tea, with other cooling and acidulated liquors; his face should be often washed, and his throat gargled with cold water, to prevent a too free eruption about those parts. He should not be confined to bed, and a mattress, lightly covered, should always be preferred to a feather bed; he should expose himself to the cool air, which is by far the most effectual remedy for abating the febrile heat produced by this disease. The more the heat of the body exceeds the natural temperature, the greater will be the benefit of refreshing cool air, in moderating the distressing symptoms. Besides cool air, we are advised by Dr. Thomas and others, (Modern Practice) to apply cold water, by partially or generally washing the body, during the eruptive fever. This practice has been adopted in Europe, and it is asserted that the most beneficial effects have resulted from it. The author just mentioned observes, that when the patient is seized with variolous fever, and the febrile symptoms run high, cold water should be thrown over the body every four or six hours, and continued till the eruption is completed. This he says usually mitigates the head-ach, pains in the back, and other febrile symptoms; a slow and gentle perspiration succeeds, a mild eruption takes place, and the violence and danger of the disease are diminished. The chamber of the patient ought to be kept freely ventilated, he should have his linen and bed-clothes frequently shifted, and except he complains of being actually chilly,

there will be no danger in carrying the cool regimen to the full extent. When the disease proceeds in a favourable manner, little more will be requisite than the means above advised. If, however, the general inflammation should run very high, and many alarming symptoms be present, the judicious physician may find it necessary to take away a proper quantity of blood; but much precaution is to be observed, lest a malignant or putrid fever accompany the disease, when bleeding might prove highly injurious. Local blood-letting, by scarifications, or by the application of leeches, should perhaps be preferred as being a more safe remedy. Strong purgative medicines will seldom be required, but gentle laxatives, or softening clysters, should be given every two or three days, through the whole course of the disease, in order to obviate that costive state of the bowels which generally attends the patient. After the eruption is completed, and also during the maturation or ripening of the pox, the efforts of nature, if too feeble, should be assisted in the important process, by the use of some cordial medicine, as wine whey, snake-root, or saffron tea, care being taken not to overheat the patient. The filling of the pox is often prevented by great restlessness, in which case gentle opiates must be administered, and repeated till the desired purpose be answered. If a strangury, or suppression of urine, should occur, as sometimes happens, the patient, if able, should walk about the room with his feet bare, and cold water may be dashed over his legs and feet, which has sometimes succeeded. A valuable remedy in this complaint, is equal parts of spiritus nitri dulcis and laudanum, one drachm of which may be given to an adult every hour until relief be obtained. When purple or black spots appear among the small-pox, indicating a putrid state of the blood, the Peruvian bark should be immediately given, to the greatest extent that the patient's stomach can bear, to which should be added the elixir vitriol, and all the means which have been advised when treating of putrid fever. Much danger is to be apprehended when the small-pox strikes in, as it is termed, or the pustules suddenly sink, and become flat before they have arrived at maturity. The effects which arise from this circumstance, ought to be immediately counteracted by the application of blisters to the wrists and ankles, and sharp poultices composed of mustard seed, oat meal, and vinegar, to the feet and hands, administering at the same time some mild cordial medicine internally. If on the approach of the

secondary fever, it be accompanied with high inflammatory action, and affecting the breast or lungs, blood must be drawn, in a quantity suited to the urgency of the case, and the strength and age of the patient; but if on the other hand the pox become suddenly pale, attended with coldness of the extremities, and faintness, blisters should be applied, and generous cordials with the Peruvian bark exhibited. We are advised by Dr. Buchan and others, to open the pustules with a lancet or needle, for the discharge of the contained matter, the absorption of which, it is said, produces or increases the secondary fever. It should be done when the pox begin to be of a yellow colour, and as they fill a second or third time, the operation may be as often repeated. Besides the beneficial effects of this practice, in diminishing the fever, it tends to prevent the pitting, which is an object of some consideration.

Purging is in general necessary after the small-pox; but when the patient has suffered under the confluent kind, great care must be taken that the doses, or the frequency of them, be not such as to occasion excessive debility.

VARIOLOID DISEASE, OR SECONDARY SMALL-POX.

This is a variety of distinct small-pox. The premonitory symptoms are the same, and the eruption comes out in a similar manner. It has appeared as an epidemic. It attacks indiscriminately those who have had the genuine small-pox, naturally or by inoculation, or those who have been vaccinated, and it has been known to occur the second or third time in the same individual. But this modification of small-pox is not very readily communicable by inoculation. It is generally mild, the patient not being confined more than one or two days, and but eight or ten pustules appear. Sometimes, however, the pustules are numerous, but smaller and harder than in the genuine disease. The peculiarity of varioloid is, that it stops as it were in the middle of its progress, about the fifth or sixth day; the pustules not unfrequently dry without maturation, and it seldom or never proves fatal.

INOCULATION.

The discovery of communicating the small-pox by inoculation, which was first practised in this country in the year 1720, (see page 11) may be considered as making an important era in the

history of medical improvement. So confessedly great have been the advantages resulting from this practice, that most of the prejudices and objections against it have lost their influence, and all classes of people have resorted to it whenever the small-pox contagion has prevailed. By inoculation, the shocking ravages of this most disgusting and fatal disease are in a great measure prevented. It has been computed that one third of the adults, and about one seventh of the children die, who take the small-pox the natural way. By inoculation, if properly managed, not more than one in five or six hundred have been known to become its victims. But kind Providence has recently bestowed a more inestimable blessing on the human race, in the discovery of the cow-pox, as an infallible antidote to the fatal malady in question. Since the inoculation of cow-pox is so universally adopted, that we have much reason to hope that the time is at hand when the small-pox will bid a final adieu to the civilized world, it is scarcely deemed justifiable any longer to perpetuate it, by inoculation. A few brief directions, however, belong to this place. The manner of performing this operation is perfectly simple and easy. Take a little matter from a pustule on a healthy subject, when the pox are fully ripened, on the point of a lancet, and insert it in the arm, midway between the shoulder and elbow, by making one or two small punctures between the true and scarf-skin, wiping the point of the lancet at the edge of the incision, and afterwards pressing down the skin with the flat side of the lancet. Some care is requisite to prevent the discharge of blood from washing out the matter; and to insure success, it is advisable to inoculate in two places, or in both arms. In three or four days after the insertion of the matter, the part appears inflamed, and in about three days more the symptoms of infection come on. The most eligible season for inoculation, is when the weather is temperate and healthy; and the most proper age for children is between three and five years. The greatest attention should be paid to the state of the child's health at the time, as it would be absurd to inoculate when the condition of the body is such as to be incapable of resisting the effects of the complaint. It is likewise proper to pay some attention respecting the medicinal and dietetic preparation, as this may have considerable influence in the future eruption, and other circumstances. Those that have been accustomed to high living, and are of a gross habit of body, or abound with bad humours, ought to be put upon a spare diet for

ten days or more before inoculation. They should abstain from much gross animal food, and every thing of a heating quality; and two or three doses of physic, at the distance of three days from each other, suited to the age of the patient should be given. When the signs of infection have begun to appear, the proper management is to keep the patient cool, and his body gently open; by which means the fever is kept low, and the eruption greatly lessened. The food and drink during the disease, are to be regulated in the same manner as in the natural small-pox, and should medicine be requisite, the same directions will be found applicable. When the disease has ceased, some purgative medicines will be equally necessary as in the former kind of disease.

SCABIES, OR ITCH.

This loathsome and unpleasant disorder consists of little watery pimples of a contagious nature, which first appear between the fingers, and on the wrists, afterwards affecting the arms, legs and thighs, and in process of time spreading over the whole body, except the face, and attended with a great degree of itching, especially when warm in bed or exposed to the heat of a fire. The hot vesicles contain an acrid serum, to which by scratching, dry rough scabs succeed. A want of cleanliness is frequently the original source of this disease, by producing animalcula, or small insects in the skin, which occasion the violent itching, and by which the infection is supposed to be communicated by contact with the body, or by wearing the same clothes, or lying in the same bed-linen that has been used by a person already infected. The itch is seldom attended with dangerous consequences unless neglected or improperly treated; if suddenly repelled or driven in without proper evacuations, it may give rise to fevers or some internal inflammation. Persons affected with this disease, if to any considerable degree, should never neglect to take as much flowers of sulphur and cream of tartar internally as will have a laxative effect, before or during the employment of the proper external remedies. Among the numerous forms of ointment recommended and employed for the removal of this disorder, experience confirms that no one is to be preferred to those which have sulphur as a principal ingredient; the unpleasant sulphureous smell may be cor-

rected by the addition of the essence of lemons or burgamot. Dr. Good prefers mixing the sulphur with cream. But as the application of the sulphur ointment over the whole body is attended with many inconveniences, various substitutes have been proposed. The oil of turpentine applied to the parts affected will sometimes cure. The sanguinaria canadensis dissolved in vinegar, if well applied has been known to effect the desired purpose. The proper proportion is half an ounce of the powdered root to six ounces of vinegar. But the most delicate, and at the same time a most effectual remedy is the following: a drachm of muriated quicksilver dissolved in half a pint of water, adding two drachms of crude sal ammoniac and half an ounce of sal nitre. The hands are to be washed with it night and morning, and a little of it applied by a sponge to the parts most affected. It is safest to use it gradually, and during its use there will be no danger of communicating the infection, and after a few days application the cure in general is complete. The unguentum citrinum, or yellow ointment of the Dispensatories, is a safe and in general a very effectual remedy. A neat and efficacious ointment may be formed by mixing half a drachm of sulphuric acid with two ounces of hog's lard, but this is apt to corrode the person's linen when applied. There are various vegetable productions possessing properties adapted to the cure of this filthy disease, as digitalis, the two species of laurel, tobacco, and the root of white hellebore, found in our meadows and swamps. A strong decoction of either of these, applied as a wash, will seldom fail to effect a cure. In some instances where the patient is of a full habit, it will be proper to bleed, or to administer one or two purges before the application of the ointments, which are to be rubbed upon the arms, legs and thighs, or other parts, at bedtime every night, it being seldom necessary to apply the ointment over the whole body. When the cure is completed, which generally requires two or three nights, the patient's body should be thoroughly washed with soap and water, and all the infected clothes ought to be well fumigated with sulphur or otherwise effectually cleansed. Some attention should be paid to the diet while labouring under this disorder; high seasoned or salted meats and heating liquors should be avoided, and milk and vegetables, with a small proportion of animal food preferred. The patient should shift his linen frequently, and attend carefully to the means of cleanliness.

It frequently happens that children are afflicted with eruptive disorders, having a similar appearance with the itch, but it is not always safe to treat them in the same manner, for those eruptions are often salutary, and ought not to be suddenly repelled.

ORDER VI.—SARICELLA. CHICKEN OR SWINE-POX.

THIS complaint is propagated by infection, and persons can be affected with it but once during life. It is attended with no danger, although sometimes accompanied with unpleasant symptoms, such as slight head-ach, lassitude and other febrile complaints. The pustules or pimples sometimes make their appearance without being preceded by any illness or signs of their approach. They never are very numerous, nor run together. On the first day of their appearance, they are of a reddish colour, and on the second there is at the top of most of them, a small bladder, about the size of a millet seed. This is sometimes full of a watery liquor, and the skin breaking, a thin scab is formed on the first or second day, on the top of the pustule, and on the fifth day of the eruption, they are almost all dried and covered with a crust. This disease as above described requires no medicine, care only being taken to keep children who are ill with it from the cold damps of the evening air, and to regulate their diet, which should consist chiefly of broth, light puddings, and bread and milk.

This disease may be distinguished from the small-pox, by its appearance on the second or third day, and from the bladder of watery liquor, upon the top of the pox. It may likewise be distinguished by the crust which covers the pox on the fifth day, at which time the small-pox is not come to a state of maturity.

VACCINA, OR COW-POX.

ALTHOUGH this singular disease has been known for more than half a century, in some districts in England, and in Germany, as affecting the udder of cows, and also the extraordinary fact of its being a preventive of small-pox, it was not till 1797 and 1798, that the intelligence was promulgated and the disease artificially propagated among mankind. Dr. Edward Jenner, an eminent English physician, was the first who made it a subject of medical investiga-

tion, and by his unexampled industry and perseverance, has demonstrated the infinite importance and utility of this heavenly blessing to the whole civilized world. The fact had fallen under the observation of this celebrated physician, that cows, in some parts of England, have long been liable to an eruption, and sores on their teats and udders, which was occasionally communicated to the hands and arms of those who were employed in milking them, producing ulcerous sores and some degree of fever, and from the hands thus affected, the same disease was frequently communicated to other cows by the operation of milking. Hence the disease obtained the name of kine, or cow-pox, (vaccina, or vacciola;) and it was likewise satisfactorily ascertained, that the person who has once undergone the disease so communicated, is ever after secure against the infection of the small-pox, either in the natural way, or by inoculation.

It appears that Dr. George Pearson, of St. George's hospital, first suggested to Dr. Jenner, the application that might be made of the facts familiarly known for years before, that the dairy maids were proof against the small-pox, and this distinguished physician, it is believed, united his efforts with those of Dr. Jenner, for the establishment of vaccination, as a substitute for small-pox. Dr. Jenner, however, was the principal agent in this noble employment, and he has been justly and liberally remunerated by the British Parliament.

Those persons who are conversant with cows, during the season when they abound most in milk, will recollect that, various external causes, such as rough handling, stinging of flies, &c. will produce small white blisters, cracks and pimples, on the teats and udder, which however, are seldom more than skin deep, and are of short duration. Cows, too, whose udders have been suffered to remain full for some days, have been observed to be affected with severe inflammation of those parts, succeeded by large eruptions upon the teats and udder, leaving large and troublesome sores, the matter from which will communicate a disorder to the hands of the milkers, and often produce foul and extensive ulcers, which prove tedious and difficult to cure.

The genuine cow-pox, however, is a distinct disease from those which have been just mentioned. It generally makes its appearance in the spring, and shows itself in irregular pustules on the teats and the udder. They are at first of a palish blue, or rather a livid colour,

and contain a thin watery and sharp fluid. The surrounding parts are inflamed and hardened. These pustules, it seems, are very apt to degenerate into deep corroding ulcers, and constantly discharge a matter, which commonly increases in thickness, and hardens at last into a scab. In some instances, the cow becomes evidently indisposed, loses her appetite, and gives less milk than usual; but it often happens that the disorder though severe is entirely local.

It appears that the cow-pox never proves fatal to cows, nor is infectious, in the usual manner of contagious distempers, but can only be communicated to them, or to the human species, by actual contact with the matter which proceeds from the sores. Hence the cows which are not in milk, escape the disease entirely, though constantly in the same field with those that are highly infected; and it seems to be only from the circumstance of the milker handling the teats of the sound cows, after touching the diseased, that the cow-pox ever spreads among them.

The matter discharged from the sores on the udder and teats of the cow, when affected with the genuine cow-pox, is found by experience to possess the power of infecting the human species when applied to any part of the body where the skin is broken or naturally thin.

The following appearances are exhibited on the hands of the domestics who are employed in milking cows affected with cow-pox. Inflamed spots begin to appear on the hands, wrists, and especially the joints and tips of the fingers; and those spots at first resemble the small blisters of a burn, but quickly proceed to suppuration. The pustule is quite depressed in the middle, and of a blueish colour, and is surrounded with a considerable redness. The blue colour which the pustule almost invariably assumes when the disorder is communicated directly from the cow, is one of the characteristic marks by which the cow-pox may be distinguished from other diseases which the milkers are likewise liable to receive from the cow. The matter of the pustule is at first thin and colourless; but as the disorder advances, it becomes yellower and more purulent. In a few days from the first eruption, a tenderness and swelling of the glands in the armpit comes on, and soon after, the whole constitution becomes disordered, the pulse is increased in quickness, shiverings succeed, with a sense of weariness and pains about the loins, vomiting, head-ach, and sometimes a slight degree of delirium. These symptoms evince that the general system is

affected by the absorption of the virus of cow-pox, and they continue with more or less violence from one to three or four days, and when they abate, they leave sores about the hands which heal very slowly; resembling in this respect the ulcers on the nipple of the cow from which they derive their origin. The cow-pox eruption, though very severe on the hands, and occasioning much general illness, never produces a crop of pustules over distant parts of the body, arising spontaneously as in the small-pox. The lips, nostrils, eye-lids, and other parts of the body are, however, affected with sores in consequence of being heedlessly rubbed, or scratched with the patient's fingers when infected with the matter.

"It was at first conceived to be no unreasonable conjecture that the cow-pox, and small-pox, were originally one and the same disease, the latter having undergone in the lapse of years, and by the influence of various constitutions, the changes which it now exhibits, but no facts have occurred to verify this opinion, and it appears that the two diseases are not susceptible of intermixture, each preserving its distinct character under all circumstances; and experiments have demonstrated that when persons have been inoculated with the two sorts of matter mixed together, sometimes the vaccine pustle, at others the variolous has been produced, each of them retaining its characteristic marks throughout. It is likewise ascertained, that when persons are submitted to the influence of variolous and vaccine matter at the same time, both prove effective; for the vaccine vesicle proceeds to its acme in the usual number of days, and the maturation of the variolous pustules is attended with a pustular eruption on different parts of the body; but when variolous matter is not inserted until the ninth day after the inoculation with vaccine matter, the action of the variolous seems to be wholly precluded. Both fluids being introduced about the same time, restrain the action of each other. The vaccine vesicle in this case, is smaller and proceeds more slowly to its maturity, and the variolous pustules are small, hard, and shining, producing only a small particle of matter at their apices."

The cow-pox in many instances has proved a severe disorder in those who receive it immediately from the cow, numerous pustules appear, and the feverish symptoms run very high. But it is ascertained to be an undoubted fact, that the vaccine virus is greatly modified, and rendered much milder by passing through different

habits by inoculation ; when therefore proper matter taken from the human subject is used for inoculation, few or no pustules are to be observed, except immediately round the inoculated part, and little or no inconvenience is experienced during the whole course.

The fact which is of the greatest magnitude and interest to mankind relative to this subject, is, that the cow-pox having had its proper operation, as designated by the usual constitutional symptoms, is a perfect security against the attack of that most formidable and loathsome malady, the small-pox. Whatever objections and doubts may formerly have subsisted, the principle has now become so universally notorious, and established, that no uncertainty remains, and no arguments need be urged in its support. By direct experiments conducted by numerous practitioners, it has been proved in the most satisfactory manner, that the susceptibility of the small-pox, is totally destroyed by inoculation with the vaccine matter.* Incredulity itself, can no longer deny, or question the interesting fact, and such is the confidence now reposed in its efficacy, that the practice of vaccination has been adopted not only in various parts of the European continent, but extended to the remotest regions of the civilized world. The armies and navies of Europe, are by vaccination preserved from the ravages of the small-pox, and there is good ground to hope, that by the same providential means this most desolating scourge will soon be wholly exterminated from among the calamities of the human race.

It has been asserted, that although the cow-pox supersedes the small-pox, still it does not secure the system from a second or third attack of the same disease. It will not be denied that instances have been adduced of repeated attacks of the cow-pox in the same person, but they are of very rare occurrence and should be considered as irregular.

It is well known that persons who have been the subjects of small-pox, are liable to be affected in some slight degree with the symptoms of the same disease when exposed to the infection. If among the many thousand successful cases of vaccination, a few

---

* Dr. Fancher, a very experienced inoculator, in a communication published in the New-Haven Register, says, "Having vaccinated upwards of 85,000 persons within 24 years, and tested many hundreds of them afterwards with small-pox matter and infection, I am happy to proclaim to the world that I have never known one of them to have taken the small-pox."

instances are recorded tending to invalidate the supposition of the preventive power of the cow-pox, with regard to small-pox infection, they are probably to be viewed as cases of a spurious disease, arising from the imperfect quality of the matter employed, or some irregularity in the habit of body. The board of the British national vaccine establishment, in their report to the government, in July, 1812, observe, " that in some instances the small-pox has affected persons who have been most carefully vaccinated, is sufficiently established, nor ought we to be surprised at this, when we consider that the inoculation for the small-pox sometimes fails, and that several cases may be produced in which persons have been affected with the natural disease more than once in the course of life. The number of instances of small-pox after vaccination, however, is very small, and we may fairly presume, that in proportion as improvements are made in the practice, such occurrences will be still more rare.

" The board have infinite satisfaction in stating the two following important and decisive facts, in proof of the efficacy and safety of vaccination, viz. that in the cases which have come to their knowledge, the small-pox, after vaccination, with a very few exceptions, has been a mild disease ; and that out of the many hundred thousand persons vaccinated, not a single well authenticated instance has been communicated to them, of the occurrence of a fatal small-pox after vaccination." (New-England Medical Journal, Vol. II. p. 84.)

Those who undertake to inoculate for the cow-pox ought to be well instructed in regard to the regular process of the pustule, and the most proper time for taking the matter. In the hands of some early and inexperienced inoculators, several failures are known to have occurred, and there undoubtedly are innumerable instances of persons having imprudently been inoculated by those who are totally unqualified to perform that service in a proper manner. Persons in this predicament, who have not been tested by the small-pox, or who have not experienced the most unequivocal constitutional symptoms of vaccine affection, should by no means conceive themselves secure, until by re-vaccination under the direction of some experienced inoculator, their safety be completely ascertained and established.

At an early period after the promulgation of vaccine inoculation, attempts were made first by individual physicians, and afterwards

by the Massachusetts Medical Society, to diffuse the benefits of this invaluable blessing among the people of the New-England states, and it has since been extended throughout the Union. From the novelty and singularity of the project, strong prejudices were imbibed against it, and some unfortunate failures in unskilful hands tended to confirm and increase the opposition, and it was only by the most persevering exertions, and influence of the friends to vaccination, that the public mind was at length brought to acquiesce in its great utility. A more universal and unbounded confidence in its efficacy is yet extremely desirable, that all classes of people may avail themselves of this glorious victory, which if improved, will rescue millions of the human race from the grasp of the king of terrors! Parents ought to consider it a point of moral obligation to vaccinate their children in early life, and it should be made an indispensable requisite to qualify those who engage to serve in military or naval stations. Every seaman ought to hold vaccination in the highest estimation, and rank it among the most important of "*the sailor's rights.*"

It has been found that the matter of a single pustule being mixed with one quarter of an ounce measure of warm water, such diluted matter excited as distinct a vaccine pock by inoculation, as an equal quantity of undiluted matter; which points out a very easy method of inoculating a considerable number of persons from a single vaccine pock.

Mr. Bryce's Test of Genuine Cow-pox.

"Five or six days after the first inoculation, Mr. B. makes a second. If the disorder be of genuine character, the second inoculation, though performed some days after the first, will have its progress so much accelerated as to have an areola formed a few hours after the first; and during the remaining stages of the cow-pox, the peculiar appearances of the two inoculations will take place nearly at the same time; for the constitutional action excited by the first is extended to the second. Those engaged in vaccination have frequently witnessed that punctures and eruptions in the neighborhood of the vaccine vesicle, often assume the appearance of cow-pox.

"Even a whole flock of the eruptions of chicken-pox have been seen to exhibit a semi cow-pox character. Mr. Bryce usually in-

oculates with the crust dissolved in cold water. He recommends that the crusts should be carefully selected, and that the central dark coloured part be employed." (New-England Medical Journal, Vol. I. p. 311.)

It may be worthy of remark, that vaccination produces little or no pain, no danger nor loss of time; persons of all ages, and under almost all circumstances may become the subjects of it with perfect safety, and often to the relief of many complaints under which they have previously suffered. Children, under the influence of the hooping cough, have experienced the favourable tendency of vaccination in lessening the severity of that disease.

The important fact has been ascertained by Dr. Fancher, an experienced vaccinator, that both small-pox and cow-pox are capable of being expedited in their operation by means of an accumulated number of punctures. Thus, let a person be inoculated in the usual way for the small-pox, and twenty-four hours after vaccinate by a number of punctures in the body and limbs, and the vaccine will take the lead. To rescue a person from the small-pox, six or seven days after exposure to the infection, he must be vaccinated by about six punctures in each thigh, six in different parts of the body, and the same number in each arm. In such cases it is obviously of the utmost importance that the vaccine matter be of the most active and genuine kind.

In order to supersede the inoculated small-pox, one or two days after the matter has been inserted, in addition to the above it will be necessary to encircle the variolous, or small-pox puncture with a number of vaccine punctures, about three-fourths of an inch from the small-pox puncture, and the same distance apart from each other. "By this lucky stratagem, we out-general and vanquish the gigantic foe. In this experiment, the triumph of vaccination will first be marked by the vesicle of the small-pox changing its colour from a cranberry or livid, to a dull blue, and then, instead of progressing, it speedily dries up, and a premature light brown scab will form, which is full evidence that the *monster* has let go his gripe, and that the patient is out of all danger of the small-pox."

The following valuable instructions and remarks from a late publication are subjoined, as being particularly deserving the attention of inoculators, and all ranks of society.

Vaccine Inoculation,

"Effectually prevents the small-pox, is never dangerous, requires no particular diet nor medicine, and may be practised at all ages and at every season of the year."

To collect the Vaccine Matter.

"The matter may be taken from a pustule that is making its progress regularly, and which possesses the true vaccine character, by puncturing with a lancet in several points, and charging small square pieces of glass with it by gently pressing them on the opened puncture, and putting two of them together, with the sides containing the matter in contact; wrap them up in a piece of paper, and preserve them from heat and moisture."

"The best time for taking the vaccine matter is from the seventh to the ninth day, before the efflorescence or red appearance takes place. An unnecessary irritation of the pustule is thereby avoided: and it is also advisable not to take a great deal of fluid from one pustule.

"Or, the internal, central part of the first scab that falls off, which is the true vaccine scab, may be used.

"The scab of a vigorous pustule should be chosen, and may be kept in a cool dry place for a twelve month: so that vaccination may be performed from it at any time."

To introduce the Matter.

"The proper place for introducing the matter is on the arm, about midway between the shoulder and the elbow. The mode of doing it is by impregnating the point of a clean sharp lancet with the matter, and inserting it by means of a very slight scratch or small puncture, and wiping the point of the lancet on the part where the blood is drawn. Fluid matter taken from a pustule and immediately inserted, is the most certain. But to use the matter on the glasses, we restore it to a fluid state, by dissolving it in a small portion of cold water taken upon the point of a lancet; and to use the scab, we scrape off some of the dark, internal, central part, and mix it with a little cold water on a piece of glass."

Signs of true Vaccine Inoculation.

"A little red spot will appear on the punctured part on the third day, which on the fourth or fifth day, becomes a watery or vesicated pimple: It goes on increasing, with a depression in the middle of the pustule, until the ninth or tenth day, when it is generally surrounded by a rose coloured, circumscribed appearance or efflorescence, which remains nearly stationary for a day or two.

"The efflorescence then fades away, and the pustule gradually becomes a hard glossy scab, of a dark mahogany colour. This efflorescence is also called the areola, and the vaccine ring, from its being circumscribed. It is most commonly in size rather larger than a dollar.

"These progressive stages of the pustule are commonly completed in sixteen or seventeen days. One pustule only is produced. On the eighth or ninth day, when the efflorescence is forming, some fever often occurs in children, and lassitude in adults."

Signs of unsuccessful Vaccine Inoculation.

"The most frequent deviation from the perfect pustule, is that which finishes its progress much within the time limited by the true.

"Its commencement is marked by a troublesome itching; and it forms a premature efflorescence, sometimes extensive, but seldom circumscribed or of so vivid a tint as that which surrounds the complete pustule; and it exhibits one peculiar characteristic mark of degeneracy, by appearing more like a common festering, produced by any small extraneous body sticking in the skin, than a pustule excited, before described by the vaccine virus. The successful progress of the vaccine pustule is frequently rendered uncertain by being rubbed.

"An attention to the progress of the true vaccine inoculation, impresses on the mind of a practitioner the perfect character of a vaccine pustule. Therefore, when a deviation of any kind arises, common prudence points out the necessity of re-inoculation with vaccine virus of the most active kind, and, if possible, taken fresh from the pustule."

Cautions respecting the Vaccinated Part.

"To preserve the patient from suffering inconvenience in the vaccinated part, it is necessary that it should not be rubbed; that it should be entirely loose and exposed to the air, and during the time of the efflorescence, should be constantly dusted with rye or buck-wheat meal. The arms of adults are often inflamed from their wearing tight clothes, or using too much exercise at the period of the inflammation taking place—this might easily be prevented by avoiding the cause.

"If the pustule is rubbed and becomes a sore, the part should be covered with Goulard's cerate, or a salve composed of sweet-oil and bees-wax melted together, spread on a piece of clean linen rag, and kept in its place by a piece of soft linen sewed round the arm; the same application should be made if any sore remains after the scab has dropped off."

Since the publication of the first edition of this work, many instances have occurred wherein the prophylactic powers of vaccination have failed to protect the constitution against the attack of small-pox, by which the confidence of the public has been in some degree impaired. From a close investigation of this subject, it appears most certain, that cow-pox is a security, to a very considerable extent, and for some length of time though indefinite; and it may be safely affirmed that the variolous disease is in a great measure conquered by its substitute. We have the most substantial support in this assertion, by the honourable and candid report of the British national vaccine establishment, dated April, 1821, as follows: "After every reasonable deduction, we are compelled to allow that too many cases still remain on undeniable proof to leave any doubt, that the pretensions of vaccination, to the merit of a perfect and exclusive security in all cases against small-pox, were admitted, at first, rather too undeservedly. Yet, the value of this important resource is not disparaged, in our judgment, for after all, these cases bear a very small proportion to the number of those who are effectually protected by it," (eight only are stated, out of nearly sixty-seven thousand vaccinated since the establishment of the board.) "We have undoubted proofs from experience, that where vaccination has been performed perfectly, small-pox occurring after it, is almost universally a safe disease, and though ushered in by severe symptoms, has hardly ever failed to be cut short,

before it had reached that period at which it becomes dangerous to life."

HERPES.

According to the arrangement of Mr. B. Bell, all the varieties of herpes of any importance may be comprehended in the four following species, viz :—

Herpes Farinosus, or what may be termed the *dry tetter*, is the most simple of all the species ; it appears indiscriminately in different parts of the body ; but most commonly on the face, neck, arms and wrists, in pretty broad spots and very small pimples ; these are generally very itchy, though not otherwise troublesome ; and after continuing a certain time, they at last fall off in the form of a white powder similar to fine bran, leaving the skin below perfectly sound ; and again returning in the form of a red efflorescence, they fall off and are renewed as before.

Herpes Pustulosus. It appears in the form of pustules which originally are separate and distinct, but which aferwards run together in clusters. At first they seem to contain nothing but a thin watery serum, which afterwards turns yellow ; and exuding over the whole surface of the part affected, it at last dries into a thick crust or scab ; when this falls off, the skin below frequently appears entire, with only a slight degree of redness on its surface ; but on some occasions, when the matter has probably been more acrid, upon the scab falling off, the skin is found slightly excoriated. Eruptions of this kind appear most frequently on the face, behind the ears, and on other parts of the head ; and they occur most commonly in children.

Herpes Miliaris. This breaks out indiscriminately over the whole body ; but more frequently about the loins, breast, perinæum, scrotum and inguina, than in other parts. It generally appears in clusters, though sometimes in distinct rings or circles, of very minute pimples, which from their resemblance to the millet seed, has given rise to the denomination of the species. The pimples are at first, though small, perfectly separate, and contain nothing but a clear lymph, which in the course of this disease, is excreted upon the surface, and there forms into small distinct scales ; these at last fall off, and leave a considerable degree of inflamma-

tion below, that still continues to exude fresh matter, which likewise forms into cakes, and so falls off as before. The itching in this species of complaint is always very troublesome; and the matter discharged from the pimples is so tough and viscid, that every thing applied to the part adheres, so as to occasion much trouble and uneasiness on its being removed.

Herpes Exedens. So called from its destroying or corroding the part which it attacks; it appears commonly at first in the form of several small painful ulcerations, all collected into larger spots of different sizes, and of various figures, with always more or less of an erysipelatous-like inflammation. These ulcers discharge large quantities of a thin, sharp, serous matter, which sometimes forms into small crusts, that in a short time fall off; but most frequently the discharge is so thin and acrid, as to spread along the neighbouring parts, where it soon produces the same kind of sores. Though these ulcers do not in general proceed farther than the cutis vera, yet sometimes the discharge is so very penetrating and corrosive, as to destroy the skin, cellular substance, and on some occasions even the muscles themselves. It is this species that should be termed the depascent or phagedenic ulcer, from the great destruction of parts which it frequently occasions. In the opinion of Mr. Bell, every species of herpes is in a greater or less degree contagious, and easily communicated by contact. In the removal of these, as well as other cutaneous affections, much depends on the employment of the means of cleanliness, the warm bath, with frictions with a coarse cloth, will always contribute to the cure. The local applications best adapted as remedies, are, solutions of sulphate of zinc or of corrosive sublimate with lime water, or the unguentum citrinum. A strong decoction of the fresh leaves of digitalis has been successfully employed, as also the leaves or inspissated juice of phytolaria decandra. But the remedy which I have found to produce the most speedy good effect, is sanguinaria canadensis, dissolved in vinegar, as directed for the itch. The solanum dulcamara has, in numerous instances, manifested its superior efficacy in the cure of inveterate cutaneous diseases. Drs. Willan and Bateman, in treating of diseases of the skin, furnish ample attestations to the great utility of this medicine in the cure of various cutaneous affections of an inveterate character. Dr. Crichton, physician to the Westminster Hospital, having employed dulcamara for a number of years, states, in a letter

to Dr. Willan, that out of twenty-three cases of lepra græcorum, two only had resisted the action of this remedy. His method of administering the dulcamara is as follows: take of stalks of dulcamara, one ounce; water, one pound and a half; boil to a pound, and strain when cold. Of this decoction, the patient took two ounces at first, morning, noon and night, but the quantity was afterwards increased until it amounted to a pint per day. At the same time the skin was washed with a strong decoction, which proved an auxiliary to the cure. If it produced syncope, palpitation of the heart, or giddiness, the dose was diminished, or some aromatic tincture added. The good effects of the remedy were seldom perceived until after the first eight days. Dr. Bigelow has employed the bitter-sweet in a number of cutaneous affections, and has known herpetic eruptions to yield to its internal and external use. The mucilage of the slippery elm bark may be employed with much advantage, and in slight cases this alone will effect a cure. Dr. Good, from his own ample experience, recommends the use of the following ointment in the various cutaneous affections:

R. Calomel, ʒij. Burnt Alum, Cerusse, a a ʒj.
Venice Turpentine, ʒvi. Sperm. ceti Cerate, ʒiss. M.

Dr. Thomas has a favourable opinion of the following sedative application, which he says has been employed with success in herpes and other affections of the skin. Mix one drachm of Prussic acid with six ounces of elder-flower water, and use this lotion twice in a day. Where the disease proves inveterate, an alterative course of Plummer's pills, and a decoction of sarsaparilla, accompanied with issues and a milk and vegetable diet, must be the resort. The ring-worm, and that variety of cutaneous affections vulgarly called salt rheum, are of the same order, and require the same mode of curative treatment, as those already described. The root of the yellow dock, taken internally in decoction, and applied externally, is in considerable repute as a remedy in various cutaneous affections. Directions for forming an ointment of this root will be found in the Appendix.

MILIARIA. MILIARY FEVER.

This fever receives its name from being attended with eruptions, or small pimples, which appear on the skin, resembling in

shape and size the seeds of millet. It is not of very frequent occurrence, nor is it always an original disease; it is more frequently only a symptom of some other, such as the small-pox, measles, nervous fever, &c. in all which cases, it is commonly the effect of a too hot mode of treatment, or of medicines. This fever chiefly attacks persons of a relaxed habit of body, who live upon a watery poor diet, and take little exercise. Both sexes are liable to it, but it is observed to be most frequent among lying-in women, in whom it sometimes proves fatal.

The first symptoms of this fever are generally shivering, headach, sickness, languor, dull eyes, disturbed sleep, weak quick pulse, with heat of the skin. These continue for a considerable time, and are attended with a remarkable dejection of spirits, and desponding anxiety, and at last followed by a sudden and violent sour smelling sweat, pricking of the skin, and an eruption, at first confined to the neck, breast, and arms, but soon spreads over the whole body, and seldom affects the face. The eruption, which in general appears about the fourth or fifth day, most commonly occurs in the form of red distinct small pimples, which are prominent to the touch, but sometimes they are white, or yellow, except at the base. The former of these eruptions, commonly distinguished by the name of rash, is more favourable than the latter, which affects only those patients who are much weakened, and have a disposition to complaints attended with symptoms of putrescency.

This disease is peculiarly apt to attack those who are weakened by fatigue, evacuations, or other debilitating causes; and hence, we can easily explain why women in child-bed should be subject to it. Previous to the eruption, the patient feels a great oppression, and weight about the chest; the secretion of milk, and the lochial discharges, are greatly diminished, or altogether suppressed.

In about seven days from the attack, the eruptions are usually dry, and the skin peels off like scales, accompanied with a disagreeable itching. But when the pimples are white or yellow, they often continue a long time, by repeated succession of crops, after some intervals, by which considerable debility is induced.

It has been observed, this disease sometimes partakes of the nature of the inflammatory fever, sometimes of the putrid, and at others of the slow nervous fever; and according to the degree in which it inclines to any one of these, the method of cure must be

regulated. If inflammatory symptoms prevail, there will be a necessity for letting blood; but this must be done with great caution, and not without mature deliberation, and a particular consideration of the natural constitution, as well as the present state of the patient. If the stomach appears to be loaded, a gentle emetic of ipecacuanha should be given, and afterwards mild laxatives of Glauber's salts, with senna or manna, to remove the irritating contents of the intestines. It will next be proper to direct the saline mixture, in order to subdue the febrile symptoms. If a delirium should appear, the feet must be bathed in warm water, and a blister applied to the back of the neck. Should the disorder assume the appearance of a putrid or typhus fever, the treatment must be suited to the particular nature of the case; carefully regulating circumstances to the strength of the patient, and the violence of the disease. If a diarrhœa should attend, while the patient is in a low state, much danger is to be apprehended; but the evacuation must not be suddenly restrained, lest the feverish symptoms be aggravated. It will be proper first to give a moderate dose of rhubarb, after which, if the discharge continue, the compound powder of chalk, with opium, or the white decoction, may be given with advantage.

This fever is extremely apt to be increased by hot treatment; and the miliary eruption is ready to strike in, and thereby prove dangerous, by sudden cold, or any diminution of the patient's strength; great attention, therefore, is necessary to watch every occurrence, and support the pulse in such degree as is best suited to keep out the eruption without exciting any profuse sweat, which ought always to be avoided. The diet and drink should be moderately cordial; the chamber must be kept in a temperature neither hot nor cold; the covering of the bed regulated according to particular circumstances, and finally, the patient's mind should be preserved as much as possible in a state of serenity and cheerfulness.

Order VII.—ACNE. GUTTA ROSEA, OR PIMPLED FACE.

This is an "eruption of distinct, hard, inflamed tubercles, sometimes permanent for a considerable length of time, and sometimes suppurate very slowly and partially. They usually appear on the forehead, temples, and chin; sometimes on the neck, shoulders,

and upper part of the breast, but never descend to the lower parts of the trunk, or the extremities ; occur almost exclusively in persons of the sanguine temperament ; common to both sexes, but the most severe forms are seen in young men." This complaint is frequently the consequence of an intemperate use of spirituous liquors, but does not in all cases proceed from that cause. From its disagreeable appearance, the patient is solicitous to obtain a remedy, but when these cutaneous inflammations have become habitual, repellent applications for their removal may be attended with dangerous consequences. The mucilage of slippery elm bark is a mild and safe application, and will sometimes effect a cure, but the external and internal use of the dulcamara, as described in herpes, is more to be relied upon. If more powerful remedies should be desired, solutions of acetite of lead or of corrosive sublimate may be tried, or the ointment mentioned in page 462, but prudence will require that these should be accompanied with mercurial purges, and in obstinate cases an alterative course of mercury, joined with antimony, as in the form of Plummer's pills, will be advisable, and issues should be introduced, and their discharge continued. Fowler's arsenical solution has succeeded in this complaint, when taken in doses of eight drops twice in a day, for a length of time, but it must not be too long persisted in. In fact, the same applications which have been advised for the cure of herpes, may be employed with the greatest prospect of success in this complaint, and although on some occasions it assume an obstinate character, we know of no other remedy that need be proposed, but we would recommend in a particular manner the lotion described in page 448, as being both elegant and efficacious.

Class IV.—PROFLUVIA.

Hæmorrhages are distinguished into active and passive, according to the system of Dr. Cullen. Active hæmorrhages chiefly occur in full plethoric habits, most frequently in the spring and in the early months of summer, before the warmth of the air has relaxed the external vessels. The causes to which this complaint is ascribed by authors, are, external heat, a sudden diminution of the weight of the atmosphere, violent exercise and violent passions, a sanguine plethoric habit, sudden exposure to cold, especially af-

fecting the lower extremities, ligatures applied on a particular part, and a suppression of customary evacuations.

Order I.—EPISTAXIS. BLEEDING FROM THE NOSE.

A spontaneous discharge of blood from the nose sometimes comes on without any previous symptoms, most commonly, however, it is preceded by head-ach, or a sense of heaviness in the head, redness of the eyes, flushing and swelling of the face, an unusual pulsation in the carotid and temporal arteries, a sense of fulness, heat and itching in the nostril, and is often accompanied by costiveness, coldness of the feet, and some degree of chilliness.

A hæmorrhage from the nose is not always to be considered as dangerous, nor is it in every instance prudent to stop the discharge immediately. To those who have a redundancy of blood, this evacuation may be serviceable, frequently curing vertigo and other affections of the head, and sometimes epilepsy. It is often particularly beneficial in fevers where there is a great determination of blood towards the head; in inflammation of the liver, in gout and rheumatism, and in inflammatory diseases in general, it may prove salutary. It is therefore only when the discharge is immoderate, or continues so long as to weaken the patient, that it ought to be suppressed and its return prevented.

It is a remarkable fact, evincive of the superiority of nature in curing diseases, that a spontaneous bleeding from the nose is of more service than an equal quantity of blood drawn from a vein when bleeding is necessary.

If a bleeding at the nose should happen to a person in perfect health, and who abounds with blood, it ought not to be suddenly checked, lest the rupture of some internal blood-vessel, or an extravasation in the brain, be the consequence. But when the discharge continues till the pulse becomes weak, the lips pale, and the patient complains of being sick or faint, it ought to be speedily restrained. With this view, the person should be exposed to cool air, and be placed nearly in an erect position, with his head a little inclined backwards, and his legs and hands put into lukewarm water. He should drink freely of cold liquors, and cold water, rendered colder by the addition of crude sal ammoniac, ought to be constantly applied to the back of the neck and over the whole

head. Cold vinegar and water must be snuffed up the nostrils, or thrown up with a syringe. If these means should not succeed, dossils of lint dipped in spirits of wine, or a solution of white or blue vitriol in brandy, or a tent dipped in the white of an egg, well beat up and rolled in a powder of burnt alum, white vitriol or rosin, and put up the nostril, will commonly check the discharge; and these means may be assisted by immersing the genital parts in cold water. In addition to these remedies, the bowels should be opened by a cooling purge of Glauber's salts, and ten grains of sal nitre should be taken in cold water and vinegar, every half hour, if the stomach can bear it. From ten to twenty drops of the oil of turpentine in a little water, given frequently, has a powerful effect in restraining a hæmorrhage from the nose; but the most effectual astringent for this purpose is the acetite of lead, in doses of one or two grains, repeated every three or four hours till the discharge is restrained. The following preparation is an efficacious styptic, and well adapted to this complaint. Take sulphate of copper, three grains, sulphuric acid, twenty drops, common water, two ounces; from twenty to forty drops may be taken in water, and repeated every hour during the continuance of the discharge. In full robust habits, or where there is a quickened circulation, bleeding from the system may be proper; or the tincture of digitalis, in doses of about thirty drops every six hours, for four or five doses, will probably prove an efficacious remedy.

When the hæmorrhage proceeds from a thin dissolved state of the blood, the Peruvian bark with the elixir vitriol, in pretty large doses, will be the most proper remedies.

It sometimes happens that when the discharge of blood is stopped outwardly, it forces its way through the nostril into the throat, and endangers suffocation. To prevent this accident, the passage may be stopped by introducing a string of cat-gut or a pliable probe up the nostril, through the eye of which some strong threads have been passed, and bringing them out at the mouth, then fastening pieces of sponge to their extremities, afterwards drawing them back, and tying them on the outside sufficiently tight, by which means the bleeding vessels will be compressed. When the bleeding is stopped, the patient ought to be kept easy, and as free from disturbance as possible, lying with his head a little raised; and he should not pick his nose nor remove the tents or clotted blood, till they fall off of their own accord. The powdered char-

coal is a powerful astringent, and when introduced up the nostril by means of a dossil of lint, has soon restrained the hæmorrhage. A blister on the back of the neck has been serviceable when the case was obstinate. Those who are peculiarly subject to epistaxis, ought particularly to avoid getting cold or wetting their feet; the collar of their shirt and their cravat should be easy about their neck: if of a sanguinary constitution, and liable to a redundancy of blood, they should live abstemiously, and occcasionally take some cooling purgative.

HÆMOPTYSIS. BLEEDING FROM THE LUNGS.

The term hæmoptysis, (hæmoptoe) comprehends all morbid effusions of blood through the mouth, except that which is vomited up, whether it be discharged by the actions of coughing, hawking, or spitting; but the term appears more properly applied, when blood is coughed up from the lungs. When it proceeds from the internal surface of the mouth, upper part of the throat, or adjoining cavities of the nose, it may be discharged by hawking or spitting, and this is seldom attended or followed by any serious consequences.

Persons most subject to this complaint, are those of slender delicate frames, who have long necks, prominent shoulders, and a narrow chest; and those whose blood is acrid and copious, especially if formerly subject to a bleeding at the nose. It most frequently occurs in the beginning of summer, when the external heat rarefies the blood more than it relaxes the solids, and generally attacks people between the sixteenth and thirty-fifth year of their age. This disease may be produced at all seasons, by violent exercise, great exertion of the lungs in speaking or singing, by wounds, plethora, hectic fever, coughs, excess in eating or drinking, and violent fits of anger. Hæmoptoe may also arise in consequence of omitting to bleed or purge at the usual seasons, when the system has been habituated to those evacuations, and it frequently attacks females who labour under obstructed menstruation, and males who suffer a suppression of the bleeding piles.

This complaint, in most instances, begins with a sense of weight and anxiety in the breast; difficulty in breathing; a pain in different parts of the chest, and some sense of heat under the breast

bone ; being often preceded by a saltish taste in the mouth. Immediately before the discharge appears, a degree of irritation is felt at the top of the throat ; and on attempting to relieve this by hawking, a little florid and somewhat frothy blood is brought up, The irritation returning, more blood is spit off with a noise in the windpipe resembling that of air passing through a fluid. Sometimes, however, at the very first, the blood is discharged with coughing, or at least a very slight coughing accompanies the hawking above mentioned.

In most instances, at first the blood is in very small quantity, and soon disappears ; but sometimes when it frequently occurs, it is in greater quantity, and often continues to appear at times for several days successively. It is sometimes profuse, but seldom in such quantity as, either by its excess, or by a sudden suffocation, to prove immediately mortal.

When blood is discharged by vomiting, it commonly proceeds from the stomach, and appears in larger quantities than when from the lungs, and is of a darker colour, often consisting of lumps, and mixed with the other contents of the stomach ; while that coughed up from the lungs is usually of a florid colour, and mixed with a little frothy mucus only.

A spitting of blood in a strong healthy person, of a sound constitution, or in females from obstructed menstruation, or arising from external violence, may often be considered as not more dangerous than a similar discharge from the nose. But when it attacks the slender and delicate, it is most frequently to be regarded as a presage of consumption ; and when it proceeds from ulcerated lungs, it always proves fatal.

In the treatment of this complaint, our attention must be directed to the antiphlogistic plan, carefully avoiding every heating or stimulating substance, either of food, drink, or medicine. The diet should be soft, cooling, and slender, consisting chiefly of milk, rice, small broths, barley water, arrow root, gruel, jellies, and fruit. It is of much importance that the patient be kept quiet, calm, and easy, both in body and mind ; no exertion of the lungs by talking or reading aloud should on any account be permitted. Warm rooms, or beds, or too much clothing, as they tend to quicken the circulation of the blood, are equally improper ; instead of a feather bed, a mattress or straw bed should be preferred. His feet must be bathed frequently in warm water, and his bowels

ought to be kept in a soluble state by the occasional use of the neutral salts and manna, or other mild laxatives. But in active hæmorrhage from the lungs, copious bleeding is to be considered as the first and most important step towards a cure. If one large bleeding should not suffice, it may be repeated in smaller quantities, according to the urgency of circumstances. But on the contrary, when the pulse has been considerably lowered by the effusion, and debility induced, and the blood is of a dark colour, the lancet is not to be employed.

The late Dr. Rush advises in this complaint, a table-spoonful of common salt in fine powder, to be swallowed dry, and repeated often if necessary; he says it is often sucessful when other means fail in restraining the discharge of blood. Sal nitre is often employed in this complaint with considerable advantage; eight or ten grains of this, with double the quantity of loaf sugar, may be taken every second or third hour until the bleeding abates. But this medicine is more refrigerant in its effect if taken while dissolving in the coldest water, and a few drops of laudanum may be added to each dose. The oil of turpentine, in doses of from ten to twenty drops every two or three hours, has been known to restrain the hæmorrhage.

In cases of profuse hæmorrhage from the lungs, proceeding from a relaxed state of the vessels, recourse must be had to astringent medicines. A strong infusion of red rose leaves, sweetened with loaf sugar, and well acidulated with elixir vitriol, should be given by spoonfuls every hour or two; and should this fail, and the danger appear imminent, a trial may be made of the sugar of lead in doses of one or two grains every four or six hours, with perfect safety, and often with complete success.

Another remedy has of late been adopted with decided good effect in hæmoptysis, which is the digitalis purpurea, or fox-glove. Among other authorities, we have that of Dr. I. Rand, of Boston, who, in very urgent cases, has given twenty-five drops of the tincture every hour till the discharge was suppressed. In one instance, he says, of hæmoptysis, in a very athletic young man, where the discharge eluded the force of every other medicine, it reduced the pulse in eight hours from one hundred in a minute, to fifty pulsations, and stopped the hæmorrhage.

The application of a large blister to the breast will be found in most cases of hæmoptoe, essentially beneficial. Opiates often

have a good effect in this disease; when it is deemed necessary, two tea-spoofuls of elixir paragoric, or thirty drops of laudanum, may be given as a quieting dose in the evening. After the bleeding has subsided, in order to prevent a stagnation of blood in the cavities of the lungs, which might tend to ulcerate, the following preparation should be given to promote expectoration. Take spermaceti and honey, of each one ounce, melt them together, and when about milk warm, add one drachm of balsam copaiva, stirring the mixture constantly until it becomes cold. The size of a small nutmeg may be taken every three or four hours.

With the view of preventing a return of this complaint, a strict adherence to the antiphlogistic regimen for a considerable time, should be observed, carefully avoiding all vigorous exertions of the body, agitations of the mind, and other occasional causes.

It has been announced, that Dr. G. Rees, a respectable English physician, has published his sentiments respecting the cure of hæmoptysis, in which he differs essentially from the established practice. Dr. Rees asserts, that he has seen great and irreparable mischief produced by the use of the lancet in cases of hæmoptysis, and knows the practice to be prejudicial; and he informs, that the remedies of all others he has found the best are emetics. He has never found the hæmorrhage increased by these remedies; on the contrary, he has found them to be checked, and the periods of their recurrence either entirely put a stop to, or the intervals sensibly increased between them. When the bleeding was very alarming, half a drachm of sulphas zinci was given; in cases of less urgency, he employed the common emetic of ipecacuanha and tartarized antimony. The author has adduced a number of successful instances in confirmation, and corroborative testimony from respectable authorities in favour of his opinion and practice.

Recently it has been reported that the water-horehound, or bugle-weed (lycopus virginicus), has been employed with satisfactory success in this complaint; a decoction of the plant having been perseveringly used for some time has effected radical cures. A person has detailed his own case in the Commercial Herald, and although it is merely newspaper authority, it appears to be deserving of attention. He had for some years been afflicted with hæmoptysis, and commenced the use of this plant in decoction, taken cold, for his only drink. He received immediate relief, and had no return for two years, when he again had recourse to it, and

was again restored. He finally adopted it as his only drink for several months, and whenever the symptoms of bleeding, as violent flushing of the face and pressure at the breast recurred, by drinking the tea the symptoms were immediately dispelled. And this has been invariably the effect hundreds of times, and many other persons have shared in the same benefit from its use. It appears to operate as a refrigerant, as he always felt sensibly cooler after drinking it. This plant does not appear to possess, in any great degree, the quality of astringency, but it is a mild bitter, and as the writer observes, its essential quality is to equalize the circulation. This plant has been classed among the most popular remedies, during the late prevalence of the influenza, by the physicians in Boston, for the relief of the cough which attended that disease.

There is another plant well deserving of notice, as one of our most efficacious vegetable astringents. It is the geranium maculatum, or cranes-bill of our fields. The roots of this plant given freely in decoction, have restrained, in the speediest manner, hæmorrhage from the lungs, and it ought to be generally employed in practice, as one of the most powerful astringents which we possess.

HÆMATEMESIS. VOMITING OF BLOOD.

This complaint is generally preceded by pain of the stomach and sickness, with great anxiety, and frequent fainting fits; but is unaccompanied by any cough. It often originates from obstructed catamenia in women, and sometimes from a stoppage of the hæmorrhoidal flux in men. Strong vomits or purges, acrid poisons, sharp or hard substances, or any thing that stimulates or wounds the stomach, may occasion this disease. It is often the effect of obstructions in the liver, spleen, or some of the other viscera, and it may be occasioned by external violence. In scarlatina maligna and typhus fever, where symptoms of putrescency prevail in a high degree, this complaint is apt to occur. In moderate attacks of this disorder, it may be sufficient to direct the patient to drink freely of cold water acidulated with elixir vitriol, together with small doses of laudanum, as five or six drops two or three times a day, or the acetate of lead may be combined with opium in

suitable doses, and frequently repeated. If these should fail to check the discharge, recourse must be had to some of the astringents advised for bleeding from the lungs, especially the geranium maculatum, given freely in decoction.

The muriated tincture of iron, in doses of twenty or thirty drops every hour, is extolled by Dr. Thomas as a valuable styptic in this complaint. When the discharge has ceased, a few gentle purges of castor oil will be proper, to alleviate the gripes which commonly succeed, and may be supported by the acrimony of the putrid blood remaining in the intestines. The patient's food should be weak broths taken cold in small quantities.

HÆMATURIA. BLOODY URINE.

This complaint may proceed from falls, blows, bruises, hard riding, and venereal excesses; but it often arises from gravel, or a stone in the kidneys, or ureter. If pure blood is voided suddenly, without pain or interruption, it may be supposed to proceed from the vessels of the kidneys. But if the discharge be in small quantity, attended with an acute pain about the bladder, and a previous stoppage of urine, with heat and pain about the bottom of the belly, there is ground for concluding that it issues from the bladder. If the pain is in the back and loins, extending towards the bladder, we may presume that it is occasioned by a rough stone descending through the ureter. This complaint is never entirely void of danger, but it is the more alarming when the urine is mixed with purulent matter, as this evinces the existence of an ulcer in the urinary passages. When it arises in the course of any malignant disease, it shows a highly putrid state of the blood, and always indicates a fatal termination.

If the disorder be accompanied with a plethora, or if it arise in consequence of some external injury, bleeding from the system will be proper, and the body must at the same time be kept open by softening clysters, or some mild laxative, as castor oil or Glauber's salts. An infusion of red rose leaves with a few grains of nitre dissolved in it, should also be directed.

When the cause of bloody urine is a dissolved state of the blood, the cure depends on the free use of cinchona and acids.

If it be ascertained that there is an ulcer in the urinary passages, a cool diet of the vegetable kind should be advised, and the drink may be a decoction of marsh-mallow roots, with liquorice, linseed tea, and solutions of gum arabic, to which some nitre should be added, and the uva ursi may be advantageously employed. When the disorder is in consequence of a stone in the bladder, the removal of it by the operation of lithotomy is the only remedy. In this case we are to moderate the distressing symptoms by the mucilaginous drinks above mentioned, and by repeated small doses of opium, and by injecting emollient clysters frequently into the intestines.

A case of bloody urine is recorded, says Dr. Thomas, which had resisted all the usual remedies, and was quickly and effectually removed by giving the patient a pint a day of a decoction of an ounce of the dried leaves of the common peach tree, in a quart of water, boiled until it was reduced to a pint and a half. An early use of astringents is not advisable in cases of bloody urine, as the discharge being stopped before the vessels are relieved, the grumous blood thence arising may produce inflammations, abscesses, and ulcers. But in those cases which depend on a relaxed state of the vessels of the kidneys, or a putrid state of the blood, tonic and astringent medicines must be employed, as the cinchona bark, lime water, tincture of roses, elixir vitriol, and the uva ursi. This last medicine is much to be relied on for a cure, and is not to be neglected.

MENORRHAGIA.

When the menses are abundant in quantity at the regular period, or return too copiously once in three weeks or even more frequently, it is to be regarded as a morbid condition of the system at large, or the uterine organ in particular, and is called *menorrhagia*. But as menstruation is in many females irregular, both in the quantity and time it flows, every little deviation or excess is not to be considered as coming under this description; it is only when it flows in such quantity as to induce an alarming state of debility, and in that case it is preceded by head-ach, giddiness, dyspnœa, and more or less fever; there is at the same time much pain in the back, loins, and lower part of the abdomen; the pulse becomes

quick and weak, the face pale, and the breathing hurried; the above symptoms are also attended with dyspeptic and hysteric affections, coldness of the extremities, and an œdematous swelling of the feet toward evening. Copious menstruation often proceeds from indulgence in high seasoned food, plethora, intemperate use of spirituous liquors, violent exercise, particularly dancing, contusions, sprains, or shocks of the whole body, or abdomen, violent passions of the mind, costiveness, cold applied to the feet, excess of venery, particularly during menstruation. It may also be occasioned by a general relaxation of the system induced by frequent abortions, difficult and tedious labours, heated rooms, and the immoderate use of tea and coffee. In the treatment of this disease the patient must in the first place be enjoined to avoid the causes by which it has been produced. She ought to lie upon a hard mattress in a horizontal posture, with her head low, and lightly covered with bed clothes, and kept perfectly at rest both in body and mind; cool air should be constantly admitted to the room, and cold drinks liberally allowed; the diet must be of the least stimulating nature, and costiveness must be obviated by the employment of mild laxatives or injections; refrigerants must be administered, particularly sal nitre and the sulphuric acid. If there is a considerable degree of excitement with severe pains, and if the patient is of a full and robust habit, it will be proper to draw from the arm a few ounces of blood; and if the hæmorrhage takes place about the time of the cessation of the menses, gentle emetics of ipecacuanha and sulphate of copper may be employed with safety and advantage. In cases where increased action of the uterine vessels is evident, the tincture of digitalis in doses of from twenty to forty drops, two or three times in a day, will sometimes prove eminently beneficial. When the hæmorrhage is very copious, recourse may be had to astringents both internal and external, of the former class the most powerful are kino, catechu, alum, sulphuric acid, and the acetite of lead, the last of which is by far the most efficacious. Dr. James Mann has reported several cases of menorrhagia and leucorrhœa in which permanent cures were effected chiefly by the use of acetite of lead conjoined with calomel and accompanied with blisters applied to the os sacrum. Two grains of the acetite and half a grain of calomel were given night and morning. See Massachusetts Medical Society's Communications, Vol. II. The form of pills of acetite of lead, opium, and ipecacuanha, to be found in the Appen-

dix is a valuable preparation; one of which should be given every third or fourth hour until the desired effect be produced. The following preparation has often demonstrated its superior restringent powers in uterine hæmorrhage, and will seldom fail of success. Take sulphate of copper, three grains, sulphuric acid, twenty drops, common water, two ounces, mix, and give from fifteen to thirty or forty drops in water and repeat it every hour, or according to the urgency of the case. It may be presumed that these two last preparations will supersede the necessity of of all other internal astringents in any instance that may occur; after the employment of which, the Peruvian bark with elixir of vitriol should be freely administered to restore the tone of the system. The external astringents of greatest effect, are cold water or vinegar, or a strong decoction of oak bark with alum dissolved in it, constantly applied by means of wet cloths to the back, abdomen, and pudenda. Blisters applied to the lower part of the loins have been surprisingly successful and should never be omitted. As there generally is a considerable degree of irritation of the system and uterus, it must be allayed by opiates in conjunction with astringents. In the intervals of menstruation, the remote causes must be studiously avoided; and the system in general must be invigorated and strengthened by the cinchona, the different preparations of iron, the sulphuric acid, moderate daily exercise, and the cold bath; cold water may with much benefit be poured daily upon the back, or injected frequently into the vagina, in obstinate cases.

The period of life at which the menses cease, as well as that of their first commencement, is undoubtedly to be considered as critical and important; for the constitution must undergo a very considerable change by a total suppression of a long accustomed discharge; hence it is not unfrequent for various chronic complaints to afflict the patient and lead to a fatal termination. When, however, women survive this period, without being affected with any serious disorder, they acquire a degree of constitutional strength that subsists to a very advanced age. The cessation of the discharge seldom takes place all at once, but becomes irregular and sometimes it is obstructed for two or three months, and then returns at uncertain intervals, often accompanied with symptoms which are mistaken for pregnancy. When a cessation of the discharge is sudden in women of a full habit of body, they ought to retrench a little their usual quantity of food; they should also take

daily exercise, and keep the bowels open by a few grains of aloes or rhubarb. If the person is troubled with giddiness and pain in the head, small bleedings will be advisable. If the cessation is followed by swellings in the legs which become ulcerous, they should be allowed to continue open, or a discharge by an issue substituted in their place.

It is to be observed that when blood is discharged from the uterus in large clots or concretions, attended with a considerable degree of pain or bearing down, the case is alarming and dangerous, for it indicates a diseased state of the womb, as the menstrual blood is well known to be purely fluid, and never in its natural state to coagulate.

That morbid condition of the uterine system where the menses are either obstructed or much deficient in quantity, as well as where they are too frequent or profuse, is considered as among the causes of barrenness.

HÆMORRHOIS, OR PILES.

This distressing affection is known by painful small tumours, distinguished into the external and internal, according to their situation either without or within the anus.

When blood is discharged from the tumours, it is called the bleeding piles, and when there is no discharge of blood, it has the name of blind piles.

This complaint may proceed from habitual costiveness, plethora, hard riding on horseback, strong aloetic purges, and a stoppage of customary evacuations, sitting on damp ground, repeated and long continued pressure on the lower part of the rectum by the uterus during pregnancy, impeding the return of venous blood from that part.

This affection is generally accompanied with a sensation of weight, pain, or giddiness in the head, difficulty of breathing, nausea, and sickness, pains in the back, loins, and anus, and sometimes attended with febrile symptoms. A pungent pain is felt about the anus on going to stool, and if the tumours about the verge of the anus burst, a quantity of blood is voided, and much relief from pain is immediately obtained. Sometimes considerable blood is discharged without the fæces.

When the piles exist in the state of tumour, and the pain is severe, the principal objects are to counteract the inflammation and promote a discharge of blood from the part, in which case blood-letting from the arm has occasionally been of essential service, and the application of leeches as near as possible to the tumours will often be found no less advantageous ; but should these fail to draw blood, the piles may be opened with a lancet with ease and safety ; after which, emollient cataplasms and fomentations should be applied.

As costiveness is the most frequent cause of piles, this must be obviated by mild laxatives, and none appears to be more efficacious than the internal use of the flowers of sulphur combined with an equal quantity of cream of tartar, and double the quantity of the lenitive electuary, a tea-spoonful of which two or three times in a day ; or the extract of butternut may be substituted. The balsam copaiva in doses of forty to sixty drops morning and evening frequently produces a laxative effect, and relieves the pain arising from the piles, and on some occasions performs a permanent cure. Digitalis is said by Dr. Thomas to have afforded immediate relief in a most violent case of external and internal piles, when given in tincture to the extent of forty drops. But the method of curing the piles by the phytolacca decandra, or garget, by some called coakum, I conceive to be more eligible and successful than any other which I have experienced. It was first communicated to me by Dr. J. Leonard, of Sandwich, who directs a strong infusion of the leaves or roots of this plants to be given in doses of about two table-spoonfuls three or four times in a day, and if it fails to cure in about forty-eight hours, a quantity of the same infusion is to be injected into the rectum by way of clyster, and a few repetitions of this will in general answer the desired purpose. In some instances, however, where considerable inflammation prevails, the cure has been facilitated by the previous administration of calomel and opium, in small doses for a few days.

In some instances a prolapsus ani will be a troublesome attendant on the piles, in which case the intestine must be immediately replaced after every evacuation by pressing gently upon the anus with the fingers until the reduction of the gut is completed, and its return must be prevented by astringent applications, as a strong decoction of oak bark or nut-galls in forge water applied cold ; vinegar in which a little alum has been dissolved may also be used for the

same purpose, and the parts may be washed with cold water; as a general tonic, the cold bath will be beneficial.

When the bleeding piles return periodically, once in three or four weeks, as sometimes happens, it is to be considered as a salutary discharge, by freeing the constitution of a redundancy of blood, and ought therefore not to be stopped unless it becomes so excessive as to weaken the patient, in which case the Peruvian bark and elixir vitriol must be prescribed, and the astringent applications above mentioned assiduously employed; besides which, a weak solution of alum in the oak bark decoction may be injected into the rectum, or three or four grains of the acetite of lead dissolved in water may be substituted.

When in the external piles the tumours are painful and swelled, without discharging blood, some relief may be obtained by making a firm and gentle pressure of the piles between the finger and thumb, and the patient may be further relieved by sitting over the steams of hot water, and afterwards applying a little of the simple ointment, with the addition of a tea-spoonful of laudanum, or a mixture of lead water and laudanum, or the stramonium ointment may be advantageously employed.

All the remote causes, particularly plethora and costiveness, both during the disease and afterwards, must be studiously avoided; riding on horseback, or a sedentary life, a full diet, and intemperance in the use of spirituous liquors, all have a pernicious tendency in those who are afflicted with hæmorrhoides.

Order II.—CHOLERA.

The characteristics of this disease are a profuse discharge of a green or dark coloured and sometimes acrid fluid in large quantity, and somewhat of a bitter taste, both from the stomach and intestines, attended at the same time with painful gripings and great anxiety about the præcordia; there are cramps or spasms, particularly of the lower extremities, and great prostration of strength; there is a considerable degree of thirst, the pulse is extremely quick and weak, but the disease is seldom attended with fever, except in severe cases, and the respiration is hurried and irregular; the fluid discharge is evidently bilious, but it is bile in a very dis-

eased state, and by no means corresponds with the healthy state of that fluid.

This disease is generally prevalent in the months of August and September; and when it proves fatal, which it sometimes does in the course of twenty-four hours, the depression of strength becomes extreme, the pulse intermits and becomes more feeble, the extremities become cold, and the patient is seized with cold sweats, hiccough, and fainting fits.

This disease is in general occasioned by a redundancy and acrimony of bile, exposure to very hot weather, obstructed perspiration, too free a use of cold or unripe fruit, strong acrid purges or vomits, and violent passions of the mind.

The most successful method of cure in this disease, is by first diluting the contents of the stomach and intestines with the plentiful use of water gruel, chicken broth, and similar fluids, both by the mouth and by clyster; in the advanced stage of the disease, when the pulse is weak and the extremities cold, opiates joined with aromatics may be employed with advantage, but every medicine which has a tendency either to excite vomiting or purging must be avoided. Venesection may on some occasions be requisite, and if a low depressed pulse should be found to rise in consequence, the operation may be repeated in small quantities. The warm bath, and blisters to the stomach and thighs will be useful, especially where the spasms are violent; but it is, however, to diluents and opiates that we are generally to trust for a cure. When the acrimonious humours have been in a great measure discharged, and the pains begin to abate, an infusion of toasted oat bread or of oat meal, made brown, may be taken to stop the vomiting, and the saline draught, with ten drops of laudanum in each dose, should be given every hour till the vomiting ceases; in addition to which, laudanum must be injected by way of clyster from time to time as long as the irritation at the stomach continues. A cataplasm of opium and camphor, or the anodyne balsam, should be constantly applied to the region of the stomach.

It often happens that the violent irritation and spasms cannot be subdued without the administration of opium in excessive doses. Dr. Fisher, of Beverly, relates a case of a gentleman of about sixty-five years of age, who was seized with cholera in so violent a manner, that in a few hours after the attack, every symptom in-

dicated his speedy dissolution. As soon as practicable, sixty grains of opium were given, ten of which were returned by vomiting. The quantity retained soon removed every distressing symptom: gradually, and with difficulty, he recovered his strength. This example, however, is not introduced for the imitation of inexperienced physicians; but cases apparently desperate may occur in which from four to eight or ten grains of crude opium may be considered as a warrantable dose, and to be repeated according to the effect produced.

In cases attended with violent cramps and spasms, it is highly probable that an infusion of the skunk cabbage, administered by way of clyster, would procure essential relief; as it cannot interfere with the use of any other medicine, it surely will be advisable to give it a fair trial in every dangerous case.

When opium cannot be retained on the stomach, we are advised to apply it, by way of friction, over the region of the stomach and abdomen. Flannels wrung out of warm fomentations, with the addition of brandy applied to the stomach, and bathing the patient's feet in warm water, and rubbing them with flannel cloths, are likewise to be diligently employed. In the mean time, strong wine whey or brandy and water may be given to support the patient's strength and excite perspiration. When the violence of the attack has in some measure subsided, it will be proper to direct a moderate dose of rhubarb, to carry off the remainder of the bile; and it will be highly necessary to administer opiates, combined with the cinchona, columbo and chalybeates, for a length of time after the disease is gone off, and the patient should be restricted to food that is light and of easy digestion. The powder of columbo, is considered by some as extremely useful, during the whole course of this complaint. The following simple remedy for cholera morbus has appeared in various newspapers and gained a share of confidence. Take a clean cork and burn it thoroughly, when it ceases to blaze, mix it upon a plate with a little milk and water or other liquid, and repeat the dose till the disorder ceases, which it commonly does in the second or third administration of the remedy; the acidity of the stomach is immediately connected and the favourable effect instantaneous. It has been ascertained that cork possesses the quality of astringency, and it is by this principle its efficacy is produced. This article may be worth a trial where more certain remedies are not at command.

DIARRHŒA.

A DIARRHŒA consists in the frequent evacuation of more liquid stools than usual, of various colours and matter, as bile, mucus, natural fæces, &c. attended with flatulence in the intestines, uneasiness in the lower part of the abdomen, gripings, nausea and sometimes vomiting; the patient is unusually sensible to the impression of cold, and the disease is rarely attended with fever. When the stools appear to consist of chyle, the disease is called cœliaca; and when the food taken comes away in an almost unaltered state, it is termed lientery.

This disease may be occasioned by a stoppage of perspiration, especially by cold applied to the lower extremities, by eating unripe fruit, or food hard of digestion, or in too great quantity; the stoppage of any customary evacuation; acrid substances received into the stomach; worms and dentition, and emotions of the mind, particularly fear. The proximate cause is evidently a morbid increase of the peristaltic motion of the intestines.

When this disorder proceeds from obstructed perspiration, it is to be treated as a cold, keeping the patient moderately warm, directing a plentiful use of weak diluting liquors, bathing his feet and legs in warm water, and giving a dose of Dover's powder at bed time. As indigestion and the presence of crude or acrid matter in the stomach are most frequently the means of exciting this complaint, it will be proper to evacuate the noxious matter by emetics, which will at the same time tend to restore the determination to the skin; about ten grains of ipecacuanha, and the same quantity of blue vitriol, will probably answer the desired purpose, or it may be repeated if required. A moderate dose of rhubarb, or of Glauber's salts, is next to be advised, and this, too, repeated if the disorder continues, and Dover's powder or a dose of laudanum after the operation. The patient ought to drink largely of diluting and mucilaginous liquors, with oil and fat broths, both to sheathe the acrid matter, and promote its discharge by vomiting and purging; interposing now and then small doses of laudanum to abate the irritation.

When a looseness is to be ascribed to acidity in the intestinal canal, indicated by frequent eructations of air, green stools, gripings, &c. we must expect the greatest benefit from absorbents joined with opiates. Take of prepared chalk in powder, two ounces,

gum arabic, half an ounce, water, three pints; boil to one quart, and after straining the decoction, add two table-spoonfuls of brandy, and sweeten withsuga when used: four table-spoonfuls for a dose every two or three hours, during the continuance of the looseness; and as the frequency of the evacuations depends upon irritability of the intestines, it will be necessary to allay it by a few drops of laudanum after every loose stool. Alkalies are likewise of much use in correcting the acidity in the stomach and bowels, and frequent doses of the carbonate of potash, or sal æratus should be directed.

When the diarrhœa is occasioned by gout repelled from the extremities affecting the intestines, the discharges ought to be promoted by gentle doses of the tincture of rhubarb, endeavoring at the same time to recall the gout to the extremities by warm fomentations and cataplasms. The perspiration must also be promoted by drinking freely of wine whey, rendered more diaphoretic by adding spirits of hartshorn, or sal ammoniac, or a few drops of laudanum.

If diarrhœa arises in consequence of some violent affections of the mind, it requires to be treated in the mildest manner; instead of irritating by vomits or purgatives, we must endeavor to allay the commotion of the body and the agitation of the mind, by giving small doses of opiates as often as circumstances may seem to require.

Should the disease proceed from worms, or attend during dentition in children, it must be conducted in the manner already recited under those particular heads.

On some occasions diarrhœa has been observed to be epidemical, in consequence of using unwholesome water; in this case if the water cannot be changed, its noxious quality may be cousiderably corrected by mixing with it some lime, chalk or alum. In most instances of diarrhœa, it will be found requisite to administer astringents, aromatics, and tonics; this class of remedies is particularly adapted to those cases which depend on great debility of the stomach and intestines, or of the whole system. But while the discharges continue of a dark colour and fœtid, on astringents should be employed. The astringents most to be relied on, are, alum, logwood, tormentilla, geranium maculatum, oak bark, catechu, bark of the root of wild cherry-tree, and gum kino; and the tonics chiefly in repute, are the cinchona, angustura, simarouba, quassia

and cascarilla barks, columbo root and chalybeates. These are to be administered either separately or conjoined, according to the judgment of the prescriber, and they ought to be accompanied with a liberal use of Port wine. We have been apprized of some obstinate cases of diarrhœa being cured by the acetite of lead, in doses of from one to three grains or more twice in a day, and in some cases of children, I have experienced its utility. The kalmia latifolia, or broad leaved laurel, prepared by boiling one ounce of the leaves in eight ounces of water till reduced to four ounces, cured a diarrhœa of eight weeks continuance. See American Dispensatory, 2d edition. The dose at first was thirty drops six times a day, but producing vertigo, it was diminished to four times a day. During the continuance of this disease we should recommend a free use of diluents and demulcents, such as barley, rice, marsh-mallows, calcined hartshorn decoctions, mutton suet dissolved in milk, emulsions of gum arabic, &c.; whenever it is found necessary to check a diarrhœa, the diet should consist of rice boiled with milk, and a little cinnamon added, together with preparations of sago, arrow root with red Port wine, and the lightest sorts of animal food roasted. The most proper drink is Port wine, or brandy and water. Those who from a weakness and irritability of the stomach and bowels, are liable to frequent returns of this disease, ought always to wear flannel next to the skin, they should be temperate in the quantity of food, avoiding crude summer fruits, most kinds of vegetables, all unwholesome food and meats of hard digestion; practising exercise, and preserving tranquillity of mind. The following simple remedy has been mentioned as almost infallible in the cure of diarrhœa. Boil half a pint of molasses down to one gill, and let the patient eat the whole of it in the course of twenty-four hours.

In chronic diarrhœa, attended with debility of the stomach and intestines, we are not acquainted with a more restorative medicine than the lichen Islandicus made into a syrup and eaten with milk. If persevered in for a length of time, it will seldom disappoint expectation.

DIABETES.

A DIABETES is a distressing, and in general a very obstinate disease. The chief symptom is a very copious discharge of limpid, sweet urine, often exceeding in quantity all the liquids which the patient takes into his stomach. It is clear, pale, commonly sweet to the taste, and has generally an agreeable smell, when it is call-diabetes mellitus; and when the urine is limpid and not sweetish, it is termed diabetes insipidus, but this distinction is of no utility in practice.

The patient complains of intense thirst with a keen appetite at first, a parched mouth, with constant spitting of a thick viscid phlegm, of a mawkish, sweetish, or bitterish taste, a whitish tongue with red, bright edges; there is a head-ach and a dry, hot skin, with flushing of the face, and the pulse is small and quick. There is likewise an uneasiness of the stomach and kidneys, with a fulness of the loins, testicles, and feet, a weariness and disinclination to motion or exertion, costiveness, mental debility, weakness and emaciation.

A diabetes may proceed either from too dissolved a state of the blood, or some fault of the stomach or kidneys, whether a relaxation of those organs or a morbid stimulus applied to them. It is sometimes the consequence of acute diseases, in which the patient's strength has been reduced by excessive evacuations; it may be occasioned by hard drinking, and by strong diuretic medicines. But it has occurred in many instances without any obvious cause.

Notwithstanding the splendid talents which for years have been engaged in the investigation of the pathology of diabetes, we still remain without a satisfactory explanation of its real nature and character. While some authors point to the stomach and organs of digestion and assimilation, others refer to a morbid condition of the kidneys as the seat of the disease. It is sometimes attended with febrile symptoms indicating inflammatory diathesis, in which case small bleedings and low diet are expedient; but the main object in the curative course is to obviate a tendency in the stomach to generate that superabundance of saccharine matter with which the urine in every instance is so remarkably charged. The patient must in the first place submit to an entire abstinence from every species of vegetable matter, and adopt a diet solely of animal food, and that in as small quantities as the stomach will be

satisfied with; jellies, sago, and shell fish may be allowed, and the drink should be lime water, in which some oak bark has been infused, or the white decoction mentioned in the Appendix. It will in most instances be advisable to administer an emetic of ipecacuanha, and, as a mild laxative, ten grains or more of the powder of rhubarb may be taken daily, supporting at the same time the perspiration by wearing flannel next the skin, and taking every other night a moderate dose of the compound powder of ipecacuanha.

The next class of remedies commonly employed in this disease, consists of astringents and tonics. Of equal parts of gum kino, catechu, alum, and gum arabic, all powdered and mixed together, the patient may take forty grains three or four times in a day, drinking after it a cup of lime water in which some oak bark has been infused. Alum whey, which is made by boiling over a slow fire two quarts of milk with three drachms of alum, till the curd separates, is likewise highly beneficial; and the infusion of nutgalls with lime water has been found useful. In some cases depending on general debility, the acetite of lead, in doses of two grains twice in a day, has proved successful. The pills of acetite of lead and ipecacuanha, mentioned in the American New Dispensatory, would probably be found a valuable preparation in this disease. Opiates will be requisite to allay the irritation of the kidneys, on which account the patient may take ten drops of laudanum in a cup of drink, three or four times a day. The tonic medicines most commonly employed are, cinchona, myrrh, and chalybeates, as directed under the head of dyspepsia, together with the cold bathing. Dr. Ferriar has succeeded in three cases by giving twenty grains of cinchona, with the same quantity of uva ursi, and half a grain of opium four times a day, and lime water for the common drink. Dr. Rollo, a late and very excellent writer on this disease, recommends, besides a diet consisting wholly of animal food, the hepatized ammonia, which is prepared by making a stream of pure hepatic gas pass through the aqua ammonia until the alkali is saturated. The dose to an adult should not at first exceed three or four drops, three or four times in a day; and this dose is to be increased gradually so as to produce a slight giddiness; it should be taken immediately after being dropped from the phial into a little pure water. The nitric acid is another remedy reputed to have cured diabetes, when a total abstinence from

all vegetable food has been strictly observed. But upon the whole, according to the observations of Dr. Thomas, a total abstinence from vegetables, and the employment of animal food, together with the nitric acid, opiates, blisters to the loins, and the warm or tepid bath, comprehend the general and most successful method of cure, and that a steady perseverance in the proper regimen alone, will often arrest the progress of the diabetic symptoms, and bring the patient into a state of convalescence; but that the bark, astringents, and alkalies, either alone or combined with sulphur, (such as the hepatized ammonia,) afford little assistance in subduing diabetes, or even arresting the progress of its characteristic symptoms. In order to restore the patient to general health and strength, an admixture of vegetable and animal food is to be gradually and cautiously entered upon, as soon as ever the saccharine impregnation of the urine, and the voracious appetite, have disappeared. "The variety of means by which nature is capable of attaining the same end, has been seldom more remarkably exemplified than in the successful treatment of diabetes. By the most opposite means, such, for instance, as blood-letting, and the internal exhibition of opium, the same end has been effected." In support of the efficacy of the former method, several very satisfactory cases have been published by the late Dr. Satterley, in one of which one hundred and twenty-six ounces of blood were abstracted in twenty days, and the relief was so evident even to the patient, that he requested a more frequent renewal of the operation than the doctor deemed it prudent to grant. All the symptoms gradually subsided, and a permanent cure was accomplished.

ENURESIS, OR INCONTINENCE OF URINE.

In this disorder the urine passes off involuntarily by drops, but does not exceed the usual quantity, nor is it attended with pain. It may originate from the irritation of the neck of the bladder by stones, or from a paralysis of the sphincture muscle, or from the injury which the parts suffer from pressure in difficult labours. It is sometimes owing to the weakness of old age, and not unfrequently to the habit of retaining the urine, from a false delicacy, until the bladder becomes so much distended as to lose the power of discharging it. On some occasions, this complaint is produced

by a continued use of strong diuretics, or by injuries received about the neck of the bladder, in consequence of bruises, hard labour, &c. The most proper remedies for this complaint, are, tonics in general, such as cinchona, preparations of iron, the mineral acids, uva ursi, and balsam of copaiva; the cold bath is a valuable remedy; cold water dashed upon the genital parts, and a cold solution of acetite of lead in vinegar and water applied to the perinæum, will often have a powerful effect. But of all the remedies yet employed, there are none so immediately effectual as a blister applied to the os sacrum or lowermost part of the back-bone. Some surprising instances of complete cures in twenty-four hours, in obstinate and long continued cases, by the application of large blisters, are found on record, and this efficacious remedy should in no case be neglected. The tincture of cantharides, taken in doses of twenty drops daily, increased until some pain is felt at the neck of the bladder, has afforded essential benefit. To prevent in men the urine from galling and excoriating the parts, some convenient vessel must be worn to receive it as it drops from the urethra. The habit contracted by some children of passing their urine while in bed in the night, is said by a late writer* to be owing to their sleeping on their backs, for the occurrence never takes place but when the boy is in this position. The cure, he asserts, therefore is very simple, by turning himself round. He should accustom himself to sleep upon his side or face; by so doing, the ill habit will be broken, and the urine not be passed, nor will he be excited to dream of making water while he keep this position.

LEUCORRHŒA, OR FLUOR ALBUS.

This disease consists in a discharge of a serous fluid from the uterus and vagina, and is most incident to women of relaxed constitutions, who have borne many children. At the commencement of the disease, the discharge is generally whitish, but in its progress it becomes very much varied, both in colour and consistence; it is at first generally of a mild nature, but afterwards becomes more acrimonious; in its violent degree or advanced stage, it is accompanied with severe pain in the back and loins, great debility, dyspepsia, difficulty of breathing, palpitation of the heart, frequent

---

* Mr. Charles Bell.

faintings, paleness of countenance, loss of appetite, pain in the stomach, dejection of spirits, and there is often some degree of hectic fever, and the eyelids are sometimes very much swollen. The patient is seldom refreshed with undisturbed sleep; her body becomes greatly emaciated, her mind dejected, and a state of melancholy supervenes, often attended with hysteria and an irregularity in the menstrual evacuation. Fluor albus may proceed from various causes which induce debility of the system in general, or a laxity of the parts concerned; such are an inactive and sedentary life, poor diet, frequent abortions, difficult and tedious labours, immoderate flowing of the menses, and other profuse evacuations. It often occurs in pregnant women, and not unfrequently in girls antecedent to menstruation, and even girls of eight or ten years of age have been known to be affected with it.

It is a circumstance of great importance to distinguish fluor albus from venereal gonorrhœa, for if one be mistaken for the other the most pernicious consequences may ensue.

In the gonorrhœa, an itching, inflammation, and heat of urine precede and accompany the discharge, which proceeds from the parts contiguous to the urinary passage, the orifice of which is prominent and painful, and there is a frequent inclination to make water, and the discharge continues whilst the menses flow; there is often also an enlargement of the glands of the groin; whereas in fluor albus the discharge issues from the vagina, comes on more gradually, is more offensive and redundant in quantity; and the menses are seldom regular.

The cure of this disease will frequently be attended with much difficulty. The principal object is to strengthen the system, and excite the action of the uterine and vaginal vessels by restoring their tone, which will be best accomplished by the administration of cinchona, bitters, chalybeates, and the sulphuric acid, with cold bathing in the sea when convenient.

The patient who is afflicted with this disease should make use of solid and nourishing food, but of easy digestion. A milk diet alone has been found of great advantage; but if mixed with a fourth part lime water, it is still more efficacious. Red port wine is a useful and proper article of drink, to which some lime water may be added. The patient should abstain from tea and coffee, and avoid indulgence in a soft bed, and she ought to take daily exercise on horseback or in a carriage.

Emetics of sulphate of copper and ipecacuanha will in general be of much utility in the cure of this disease, and costiveness must be obviated by proper laxatives. Internal astringents should always accompany the tonic medicines, and of this class there is none to be preferred to those advised in the preceding pages, particularly the acetite of lead with calomel; opium may be combined or given separately, when urgent symptoms demand the employment of it. The application of blisters to the lower part of the back is of essential importance, and should on no account be neglected. Alum whey, made by boiling one drachm of alum with a pint of milk, will be of use both in this disease and uterine hæmorrhage, which sometimes alternate with each other. We are likewise advised to employ some of the stimulating balsams, as the balsam of Peru, balsam of copaiva, and the Canada balsam. The tincture of cantharides, in doses of twenty or thirty drops three or four times in a day, is of considerable repute in this disease. The partial cold bath should be employed by sprinkling cold water over the loins and thighs; a plaster of Burgundy pitch should be worn on the loins and lower part of the abdomen. The parts must be kept extremely clean, and injections should be daily thrown into the vagina with a syringe, such as a strong decoction of oak bark, in which some alum or acetate of lead has been dissolved, or a solution of sulphate of zinc. But the most efficacious injection is said to be about two or three grains of corrosive sublimate, dissolved in a pint of water; a small quantity of crude sal ammoniac should be added, to enable the sublimate to be more completely suspended. An injection of green tea has been employed with a favorable effect. A decoction of the root of sophora tinctoria, or wild indigo, is recommended for trial; from its well known antiseptic properties, it is highly probable that if applied to the diseased part by injection, it will mitigate the complaint, but especially correct the fœtor of the discharge. The patient should wear flannel next the skin, and make use of friction very frequently. The use of the mineral waters of Ballstown and Saratoga has been attended with much benefit in this complaint.

BLENORRHŒA, OR GONORRHŒA.

This disease is a well known offspring of a free indulgence in the sexual intercourse, by which, one of the parties being infected, the disease is commonly contracted, and again propagated from one individual to another. It is a local affection from impure coition, confined to the organs of generation, shewing itself by a running or discharge of matter from the urethra in either sex, and has been termed *virulent gonorrhœa*, or *clap*. It has long been a controverted question whether lues venerea and virulent gonorrhœa are one and the same disease, arising from the same matter of contagion. Although on each side of the question are found advocates of profound research and investigation, the subject seems still to be involved in a degree of obscurity. Gonorrhœa was for many years considered to be a local effect of that poison, which, when introduced into the system produced syphilis, as both affections are imbibed in the same manner, and by the same organs. The affirmative of this position is ably and zealously supported by names which will reflect honor on any cause which they may be induced to advocate. No less deserving of confidence, however, are those who have written in opposition to the opinions maintained by the authorities above referred to.

Among the latest practical writers who support the doctrine of two distinct diseases, besides Mr. B. Bell, are Drs. Parr, Good, and Hosack. They found their belief on the facts, that syphilis existed more than one hundred years before gonorrhœa was observed or described, and that the latter often continues for several months without being attended by the former; that the matter of chancre introduced into the urethra will not produce gonorrhœa, and the discharge from the urethra inserted under the skin will not produce syphilis. However closely allied, therefore, the two diseases, there is in their real character a specific difference. In speculation it is the opinion of some that gonorrhœa was primarily derived from syphilis; but that in a series of years, and successive introduction to different constitutions, it has been softened and assumed a milder form, and become specifically a distinct malady. Gonorrhœa is undoubtedly at present a disease of a more benign aspect than when it first made its appearance.

Gonorrhœa sometimes commences in two or three days after the infection has been received, and at others, not before ten or

fifteen days. The first complaint is an itching at the orifice of the urethra, and a soreness extending along its whole course, which is succeeded by a discharge of a thin glairy matter from the urinary passage, at first whitish, but afterwards changing to a yellow or green colour. A slight degree of redness and inflammation begins to appear about the lips of the urethra, and a severe heat and smarting pain in most cases are felt in every attempt to make water, and at length the free passage of urine becomes in some measure obstructed. There is commonly a sense of fulness about the glans of the penis, and frequently a soreness along the course of the urethra, accompanied with more or less pain in erection. When the inflammation or irritability of the urethra is very considerable, the erections become more frequent and lasting than when natural, particularly when warm in bed, and the penis is curved downward, with considerable pain which is called *chordee;* and this is sometimes attended with a slight hæmorrhage at the time of passing the urine. As the disease advances, the symptoms become more severe and distressing; the heat and scalding of the urine, as well as the chordee, are extremely troublesome, and there is a constant inclination to discharge urine, which is attended with much difficulty, and often is rendered only by drops. There is also a painful sensation of heat and fulness about the scrotum and perinæum, and the running is very copious, of a brown, greenish, or a bloody colour. These symptoms are sometimes accompanied with a painful swelling of one or both testicles, or sympathetic tumefaction of the neighbouring glands, especially those of the groin, and when great local inflammation prevails, the prepuce becomes so swelled at the end, that it cannot be drawn back; which symptom is called a phimosis: or it may be so contracted behind the glans, that it cannot be brought forward, when it is named a paraphimosis.

When women are affected with gonorrhœa, they experience a train of symptoms similar to those just described, but in a much more slight degree; but it must be carefully distinguished from the *fluor albus*, to which females are liable, as the matter discharged in both is often of the same colour and consistence. (See Fluor Albus.)

If the patient, in gonorrhœa, receives early attention and assistance, and adopts a judicious mode of medical treatment, the violence of the symptoms gradually abates, and in about a fortnight

or three weeks, the discharge will become thick, white, and of a ropy consistence, and diminish in quantity, until it entirely disappears; but if a contrary course is pursued, and the patient indulge in sensuality and intemperance, and partakes of stimulating, high seasoned food, and spirituous liquors, the cure will be protracted for several months.

When any suspicion arises of having caught the venereal infection, the person should immediately resort to a mild easy diet, consisting of milk and vegetables, light broths, puddings, rice, &c. He must abstain from all animal food, spiceries, and stimulating liquors, and drink freely of barley water, milk and water, linseed tea, whey, or decoctions of marsh-mallow and liquorice. All severe exercise, particularly walking, or riding on horseback, as well as venereal intercourse, ought to be carefully avoided, as also exposure to cold and damp air during a state of inflammation.

The time necessary for the cure of gonorrhœa depends not only upon the virulence of the infection, but the particular constitution of the patient. It will often, under the most judicious treatment, continue two or three weeks, and sometimes it may be protracted to six or eight. When, however, the infection is slight, it it may often be removed in eight or ten days, by a strict attention to cleanliness, and by fomenting the parts with warm milk and water, and injecting frequently into the urethra a little sweet oil, or linseed tea, about the warmth of new milk. In almost every instance of gonorrhœa a cure may be effected by the diligent employment of injections. These are varied according to particular circumstances, or as suggested by the discretion of the prescriber. When an astringent injection is preferred, it is composed of about half a drachm of sulphate of zinc, dissolved in a pint of pure water, or the proportion is increased if a stronger astringent be requisite. If a mercurial injection be desired, one drachm of calomel is suspended in two or three ounces of mucilage of gum arabic, or one grain of murias hydrargyri is dissolved in eight ounces of water. When much inflammation prevails, a weak saturnine preparation mixed with a large proportion of oleum amygdali, forms an excellent injection; and when from excessive irritation a more sedative preparation is indicated, a few drops of the vinous tincture of opium added to this will be found exceedingly efficacious. Whichever of the injections are employed, it should be used six or eight times in the course of the day, be of sufficient

strength to excite some degree of irritation in the urethra, but not so strong as to occasion much pain, and it should be thrown up in such a manner as to reach the seat of the disease. It too frequently happens, that by attempting to make a hasty cure of gonorrhœa by means of astringent injections, on its first appearance, the discharge is speedily suppressed, and the patient is soon afterwards attacked with an inflammation and swelling in one or both testicles. During the inflammatory stage, therefore, it will be most prudent to use such as are of a mild and sedative nature, and begin with those of a moderate degree of astringency afterwards. If at the commencement, or indeed in any period of the disease, the patient should appear in a plethoric state, and the inflammation be considerable, blood-letting and the antiphlogistic regimen will be proper and necessary. Cooling purges are advisable in the first stage of the complaint. For this purpose, one ounce of Glauber's salts, and half an ounce of manna, or of cream of tartar, may be taken every second or third day during the continuance of inflammatory symptoms. As a cooling diuretic medicine calculated to abate the irritations and pain in the urethra, which is often very troublesome in the early stage, an ounce of cream of tartar and the same quantity of gum arabic, powdered and mixed, should be taken in a dose of a tea-spoonful four or five times in a day; and at the same time drinking copiously of mucilaginous diluting liquors, such as barley water, linseed tea, or solutions of gum arabic in milk. By this mode of treatment, both the inflammatory symptoms and the running will be diminished, and the latter will change both its colour and consistence, becoming gradually more white and ropy as the virulence abates; under these circumstances, astringent injections may be employed with safety and advantage. The genital parts ought to be frequently fomented with warm milk and water, and emollient poultices, where they can be conveniently used, are also of considerable service in removing violent pains which often accompany the inflammatory stage of the disease.

For the cure of blenorrhœa some practitioners depend altogether upon the balsam copaiva, given in pretty large doses several times in a day from the beginning. With others we learn that cubebs is a favourite remedy, exhibited in powder to the quantity of about three drachms five or six times in a day. The cure, we have been told, is often completed in two or three days. But it is

unnecessary to multiply remedies for this simple complaint, since stimulating and astringent injections, with proper attention to cleanliness and diet, will seldom be found to fail. Dr. Good prefers to all others an injection composed of one scruple of sulphate of zinc and two scruples of bole armenic, to half a pint of water. "The addition of the bole adds to the power of the zinc, probably by giving an increased body to the solution, without diminishing its stimulant effect." He has never known this composition to fail during an extensive practice, nor has it ever produced any of the inconveniences of stricture or swelled testicles.

The chordee will be relieved by the employment of opiates internally and externally, and by rubbing along the course of the urethra an ointment composed of one part camphor, and two parts of the mercurial ointment. When phimosis occurs, the penis should be frequently immersed in warm milk or linseed tea, or the mucilage of slippery elm, and these should be injected under the prepuce, and the penis should be suspended. If we do not succeed by these means, and by taking blood from the part by leeches, the prepuce must be slit upwards in the manner directed in books on surgery. If paraphimosis takes place, warm emollients must be applied, the parts should be rubbed with some mild ointment, and attempts should be made by gentle force to draw the prepuce over the glans; if it arise from an enlarged state of the glans, cold astringent applications must be used, and a poultice should be applied, in which it will be useful to put a small quantity of acetite of lead and vinegar, and if these means fail, the stricture must be removed by the knife. If phimosis or paraphimosis are attended with symptoms of mortification, the parts must be fomented frequently with a strong decoction of cinchona and chamomile flowers, and cinchona and the mineral acids should be freely given internally. Where the inflammation has extended farther than the membrane of the urethra, and has reached Cowper's glands, the prostrate gland, or the bladder, we should endeavour by the injection of warm oil and other emollients, to increase, rather than diminish the discharge, and we should obviate the effects of inflammation by the usual means. Should the discharge stop suddenly, and the inflammatory symptoms continue, it will be improper to employ astringent injections, but emollient ones should be persevered in till the discharge return.

A very common symptom attending a gonorrhœa is a swelling of one or both testicles, termed *hernia humoralis.* This is often in consequence of cold, a sympathy of the parts affected by the imprudent use of severe exercise, or of strong astringent injections. This complaint is to be treated as inflammation in general, by bleeding and purging, and applying fomentations and poultices. Leeches have often proved serviceable, as also the warm bath. The patient will be most at ease in a horizontal posture, and the return of the discharge should be solicited by the frequent injection of warm oil, or warm milk into the urethra. Much relief may be obtained by suspending the testicle by means of a well adapted bag and bandage. When these are judiciously applied and adjusted, the patient need not be confined to a horizontal position. If the testicle remains in an enlarged state after the inflammation is subdued, emetics have been known to cure the complaint in the most speedy and effectual manner.

Inflammation on some occasions extends to the neck of the bladder, inducing a distressing strangury, attended with heat, a constant desire to void urine, and a troublesome tenesmus. If this complaint yield not to blood-letting and other measures directed in the chapter on strangury, the catheter must be employed to empty the bladder, and should this mode of relief prove abortive, and the case become desperate, the operation of puncturing the bladder must be resorted to by the hand of a skilful surgeon. When strangury proceeds from spasm, as soon as the urine touches the inflamed and tender part of the urethra a sudden constriction ensues, and the urine is evacuated by spirts or by drops only. The profession, says Dr. Thomas, is indebted to Mr. Cline for the discovery of a very efficacious remedy in this complaint. It is the muriated tincture of iron, given in doses of ten drops every ten minutes until some sensible effect is produced. After six doses, the urine usually flows freely, the patient previously becoming a little sick and faint. Mucilages and emollients would be useful at the same time, to lubricate, sheathe, and dilute the acrimony of the urine.

When in consequence of inflammation of gonorrhœa extending beyond the urethra, the mucous membrane of the bladder becomes thickened, indurated, or ulcerated, the purulent matter gives to the urine the appearance of whey, and sometimes it is mixed with blood. This is commonly a tedious and obstinate complaint, but

may be cured by injecting emollient decoctions into the bladder, and by giving a drachm of uva ursi three times a day, and proper doses of balsam of copaiva, or balsam canadensis, at the same time. If the prostrate gland should become affected with inflammation from gonorrhœa, known by a pain and heat in the perinæum, extending into the rectum, or by detecting a tumour by the finger *in ano*, we should resort to topical bleedings by leeches to the perinæum, and apply emollient fomentations and poultices.

Warty excrescences which appear about the penis and the female genitals, as a consequence of gonorrhœa or chancre, should be extirpated by a ligature applied round, or by the scissors; and the caustic, or powder of savine, which is preferable, should be afterwards repeatedly applied to destroy the remainder.

There are few complaints connected with the venereal disease more truly deplorable than strictures and callosities in the urethra; these cause the urine in its passage to spread abroad, or split into two or more streams, instead of flowing uninterruptedly in one direct stream; and on some occasions a total suppression of urine takes place, especially when bougies have not been seasonably employed. This difficult affection can be successfully treated only by the careful introduction of bougies, and by continuing their use for a considerable length of time. On the failure of these, it not unfrequently becomes necessary to introduce bougies armed with lunar caustic, or some other escharotic; but as the appropriate treatment of this form of disease is a point of much delicacy and importance, and as a detail of the rules to be observed would swell these pages to an undue length, the reader must be referred for information to the most approved authors on the subject, as Hunter, Bell, Home, Abernethy, Whately, and Cooper.

GLEET.

This is commonly the sequel of blenorrhœa when neglected or mismanaged. It consists of a discharge of mucous matter from the urethra, unattended with pain or scalding in making water. The removal of this complaint must be attempted by astringent injections and the use of bougies. The injections should consist of sulphate of zinc, to which a few grains of alum may be added; or a weak solution of corrosive sublimate may be tried. The

injections should stimulate the part gently but not excite much inflammation. The perinæum must be frequently bathed with cold water, blisters to the same part should be applied, and balsam copaiva freely taken, and small doses of tincture of cantharides should be administered. The tonic course of bark and steel ought to be directed, and these with the local astringents must be continued for a considerable time after the symptoms have disappeared, as the discharge is liable to return with increased violence. The late Professor Barton considered the uva ursi as a valuable astringent, and was in the practice of employing it, internally and by way of injection, in cases of gleet, greatly to his satisfaction, but it must be continued for a length of time. But in despite of all our efforts, instances will occur in which a radical cure will not be easily effected.

GONORRHŒA.

This term in our nosology is applied exclusively to an involuntary emission from the seminal vessels. It is mostly the consequence of an indulgence in libidinous ideas. The patient is disturbed during sleep with an erection of the penis, and dreaming of venereal engagements, and a discharge of semen follows. When it becomes an established disease, the patient is reduced to a deplorable condition; the mind is stupified, the body emaciated and debilitated, and it often terminates in hectic fever and tabes. The cure depends chiefly upon the patient's abstaining from the remote causes, by diverting his mind to different objects and keeping himself as much as possible free from every enticing thought or allurement. As respects medicine, we can only advise to balsams of Peru and copaiva, chalybeates, cinchona, and bitters, with a nutritive diet, cold bathing, and exercise.

Class V.— SUPPRESSIONIS.

Diminished discharges, whether of the secretions or excretions; whether by suppression or retention; for the most part without fever.

GENUS I.—ICTERUS, OR JAUNDICE.

JAUNDICE in its genuine form commences with a sense of lassitude, languor, and a sensation of pain and tension about the region of the liver; there is frequently anxiety and some difficulty of breathing; a yellowness is diffused over the whole skin, and the whites of the eyes and the roots of the nails being tinged with the same colour, these are attended with an intolerable itching of the skin, and a bitter tase in the mouth with nausea and vomiting and dyspeptic symptoms. The stools are of a white colour, somewhat resembling pipe clay; the urine of an obscure red colour tinging linen with a yellow hue; the pulse is generally more quick than natural, except during the passage of a gall stone, when it is slower than in health; the bowels are costive, and a slight degree of fever is present. The immediate cause of jaundice is an obstruction to the passage of the bile into the intestines by various means, as gall stones found in the gall bladder and imparted in the biliary ducts; inspissated bile, or spasmodic constrictions of the ducts themselves, or the pressure made by tumours in the neighbouring parts compressing the biliary ducts, as in the case of pregnant women. From these causes the natural course of the bile into the duodenum is obstructed and absorption or a regurgitation into the circulation takes place. Hence the yellowness of the skin, and hence also from the absence of bile in the intestines, the clay coloured fæces and the costiveness are induced. The stoppage of customary evacuations, the bilious or hysteric colic, strong purges, violent passions of the mind, and the bites of some poisonous animals, may give rise to this disease. That species of jaundice which originates from biliary concretions or obstructions of the biliary ducts, by viscid bile or spasmodic stricture, frequently admits of a cure by a seasonable resort to the proper remedies. The gall stones, although of a considerable size, frequently effectuate their passage through the biliary ducts, though with much pain. They have been evacuated of various sizes, from a pea to that of a common walnut; some rough and angular on their surface, others round and smooth. During their passage into the duodenum, the patient is exercised with acute lancinating pains in the region of the liver and abdomen, but with intervals of ease. Sometimes the pain extends up to the shoulders, the intestines are obstinately constipated, and frequently a vomiting attends.

When the inflammatory symptoms are severe, in full plethoric habits, it will be advisable to evacuate a quantity of blood, according to the urgency of the case, having regard to the age and strength of the patient. He is next to be placed in a warm bath up to his breast, or warm fome ntationsmay be diligently applied to the parts most affected with pain; and proper doses of opium given every four or six hours, until ease is procured. Emollient clysters, to serve as internal fomentations, should be frequently injected, and diluting drinks may be freely taken. When there is no reason to suspect the concretion to be of any great magnitude, and when the pain is not violent, the operation of an emetic may have a happy tendency to facilitate the discharge of the calculus; it would seem most eligible to exhibit small doses of ipecacuanha, so as to occasion for a time a degree of nausea, but ultimately, to produce its full effects, and as no remedy is better adapted for the purpose of dislodging biliary concretions, or viscid bile, obstructing the gall duct, it may be occasionally repeated during the cure of the disease. The costiveness is next to be removed by the use of mild laxatives, as pills formed of rhubarb, castile soap and calomel, or a dose of castor oil if preferred. Gentle exercise on horseback is particularly serviceable in promoting the passage of calculi, and preventing the bile becoming stagnant and viscid in the gall bladder, and liable to obstruct the free passage of it into the duodenum. Electrical shocks passed through the liver and duct at proper intervals, is likewise a good auxiliary in promoting the passage of the calculus. Cicuta has in some instances been employed as a remedy in jaundice, occasioned by spasmodic constriction of the biliary ducts. Dr. Fisher, of Beverly, reports a variety of cases, in which he has experienced its efficacious and successful result. This medicine must be increased from small doses, to the full extent which the system can sustain, and continued with proper care until the desired object is attained.

If it be discovered that jaundice is owing to scirrhosity, or fixed obstructions in the liver, which may generally be known from a weight in that part, and a darkness of the complexion, the symptoms must be palliated by small doses of calomel and opium, and diuretic medicines. It has been the practice to exhibit neutral salts, with soap and alkalies, as deobstruents in cases of jaundice. They are sometimes useful, and the prescriber may direct them in such form and dose as shall be judged best adapted to the

particular case. Many cures have been effected by living almost entirely on raw eggs for several days. On all occasions, when the pain is violent, and other symptoms urgent, recourse must be had to opiates, the warm bath, fomentations, and emollient clysters; should they fail, and should nausea and vomiting continue to be severe, a large blister applied to the pit of the stomach, and the saline draught in the act of effervescence, will probably be productive of favourable effects.

During the continuance of the disease, the diet should be light and chiefly of the vegetable kind. If in any case a putrid tendency is discovered, recourse should be had to the Peruvian bark and other antiseptic medicines, and after the cessation of the disease, the best preventive of its return, is a course of stomach bitters, with alkaline salts, together with regular and sufficient exercise daily on horseback, as nothing will tend more to dislodge those concretions before they have acquired such size as to render their passage through the ducts an object of difficulty.

It has been suggested to me by Professor Smith, of New-Haven, and by Dr. I. Allen, of Sterling, that the blood-root has been successfully employed in jaundice, and other affections of the liver. It is used in the same manner as digitalis, increasing and diminishing the dose from thirty to eighty drops of the tincture, according to the effects produced; or it may be taken in the form of infusion, or powder, in doses of two or three grains twice in a day, and on some occasions it may be advisable to combine it with opiates. Although it produces its effects on the system more immediately than digitalis, and if given in large doses it occasions great prostration of strength, yet it is not liable, like fox-glove, to produce fatal effects. The wild cellendine is said to be another valuable medicine in jaundice and biliary obstructions in general; it may at least be commended as a useful auxiliary, to be employed on all occasions with freedom, in strong infusion, during the use of other remedies.

In cases of jaundice depending on spasmodic constriction, the extract of stramonium seems calculated to afford relief, and a trial of it should be recommended. We find in the Medical Repository, Vol. I. 3d series, the following preparation recommended by Dr. I. Mace. R. Salt of tartar, one ounce; castile soap and gum arabic, of each half an ounce, to be dissolved in a pint of

common spirits; dose, two thirds of a wine glass full mixed with one third of a glass full of water every morning.

Among the vegetable productions the dandelion is in some repute for the removal of visceral obstructions, and has been used with good effect in the treatment of chronic affections of the liver. The dose is half a drachm of the extract, or from two to four ounces of the decoction or the fresh juice, two or three times in a day.

Every practitioner is apprised that the nitric acid has for many years engaged attention for its remedial powers in various affections of the liver. More recently it has been employed externally, by way of bath, and evident benefits have resulted from its use. We are indebted to Dr. Scott, of London, as the inventor of this mode of application. When in the East-Indies, he experienced the utility of nitric acid in numerous instances of liver complaints. By some means he was induced to try the effects of the nitric aud muriatic acids, combined in the form of aqua regia, in a diluted state; but finding some difficulty attending its internal use, it disagreeing with some stomachs, and injuring the enamel of the teeth, he was led to test its efficacy by an external application. Labouring himself under hepatic affection, he subjected his own person to the experiment. On the first trial the bath being merely acidulous, and nearly the temperature of the body, he staid in it half an hour, and felt no particular effect from it, but repeating the application till on the fourth day, he experienced some pain in swallowing, and a burning sensation in his mouth, with a disposition to salivation. His complaints were immediately mitigated, and in a few days entirely removed. In preparing the aqua regia for the bath, it is found necessary, to avoid the unpleasant consequence from the evolution of a volume of gas on the acids coming in contact, to put a quantity of water equal at least to both acids in a bottle, and add the acids separately. The proportion is three parts in measure of muriatic acid, and two parts of nitric acid; a pint of this combined liquor is to be mixed with the same measure of water. The acid bath is to consist of three ounces of this diluted acid to every gallon of water. It should be about as strong as weak vinegar, trusting to the taste alone; but the strength should be regulated by the degree of irritability of the patient's skin. When of the proper strength, it will prick the skin a very little after being exposed to it from fifteen to thirty

minutes. Dr. Scott, when in India, immersed the whole body in the acid bath, but he has since found that it is quite sufficient to bathe the feet and legs. A narrow tub for a knee bath, just wide enough to hold the feet and reach the knees, should contain three gallons of the prepared bath liquor, and consequently about nine ounces in measure of the diluted aqua regia. For a foot bath, half a gallon in a basin will be sufficient. The feet should remain in the bath for twenty minutes or half an hour, and the legs, thighs, and abdomen be in the mean time frequently sponged with the same. In the summer it may be used cold, in the winter moderately warm. The bath may be employed at first daily for a fortnight or three weeks, and afterwards only every other day, or twice a week. On some occasions sponging the skin will produce the same effect as bathing. In every case where mercurial preparations are indicated, except where active inflammation is present, the acid bath may be employed with safety and advantage, and in cases where mercury is injurious from delicacy or peculiarity of constitution, this will be found an excellent substitute.

"Dr. Scott affirms that he has employed this process with decided advantage in almost all cases dependent on a morbid secretion of bile, whether the secretion be superabundant, defective, or depraved. He finds it often, within a few hours of the first bathing, increase the flow of bile, and ameliorate its character, and in consequence thereof excite an expulsion of dark coloured fæces, bright coloured bile, or bile of a brown, green, or black colour like tar mixed with oil. And when employed in the midst of a paroxysm of severe pain from spasm of the biliary ducts, or the passing of a gall stone, he has often known it operate like a charm, and produce almost immediate ease." (Dr. Good.)

This mode of practice has received the concurrence of Dr. Good, in whose hands it has in some cases, been attended with complete success; while in a few it has entirely failed. That species of jaundice, or liver affection which is produced by habitual intemperance, is of such a deplorable nature, that it preys upon the constitution, often inducing abdominal dropsy, and brings down the miserable victim to the grave. The art of medicine can do but little here, unless the patient will resolutely and promptly abandon the use of ardent spirits, when the curative treatment already detailed might be adopted with some prospect of success. There is a species termed black jaundice, or green jaundice, from the col-

our which the skin assumes. This is commonly marked by signs of peculiar malignancy; it is scarcely under the influence of medicine, and generally runs its course to a fatal termination.

Genus II.—OBSTIPATIO.

A costiveness, or retention of the excrements, accompanied with an unusual hardness and dryness, so as to render the evacuation difficult and somewhat painful, is either constitutional or accidental, and may prove the cause of different complaints. Sedentary persons are peculiarly liable to this disorder, especially those of sanguineous and choleric temperaments, or who are subject to hypochondriac affections, the gout, acute fevers, and bilious disorders. Costiveness often becomes habitual by neglecting the usual time of going to stool, and checking the natural tendency to those salutary exertions, by an extraordinary heat of the body, and copious sweats, by taking into the stomach a large proportion of solid food, or such as is dry, heating and difficult of digestion, by drinking hard water, rough red wines or other astringent liquors, and by too much riding on horseback.

When costiveness is not constitutional, it is apt to occasion pains of the head, vomiting, flatulence, colics, and different disorders of the bowels. There is a species of costiveness incident to persons much relaxed, and which is attended with great pain in the lower part of the rectum; the fæces being so extremely hardened that the person is unable to protrude them. In this case, the best remedy is clysters of oil, which by lubricating the passage will facilitate the discharge. Those who are afflicted with this complaint, should visit the customary house of retreat every morning at a stated hour, and thus endeavour to promote the natural evacuation by moderate efforts, even though they may not perhaps be much inclined, and should not at first succeed; for experience has proved that nature will in this respect by perseverance acquire a habit of regularity. The most proper time for that purpose is either early in the morning or late in the evening, and never neglect the solicitations of nature. It should be considered that as purgatives tend to weaken the bowels, and that a constant use of them rather confirms the complaint, it is better to obviate costiveness by means of diet than medicine. Let those, therefore, who are sub-

ject to it, avoid all astringent food and drink, and chiefly confine themselves to aliments of a moistening and laxative kind, such as veal broth, boiled meats, apples roasted or boiled, stewed prunes, raisins, and ripe fruits in general with a large proportion of vegetables and soft pot herbs such as spinage and leeks, with the roots of turnips and parsnips. Butter, honey, and sugar, are likewise suitable articles of diet. Bread composed of Indian corn meal and rye, and eaten not till the day after being baked, ought to be preferred. The most suitable drinks are molasses and water, whey, butter-milk, and malt liquors of a moderate strength. When laxative medicines become necessary to obviate costiveness, those should be chosen which occasion the least heat or irritation : nothing has been more popular for this purpose, than Anderson's pills, and in phlegmatic constitutions they are both convenient and useful, but in pregnant women and in bilious habits, a long continued use of these or other aloetic pills is apt to induce piles ; and besides, every purgative medicine creates a necessity for its repetition, and by this repetition the bowels lose their energy and their delicate nerves become torpid. A very suitable laxative in costive habits is the extract of butternut, or flowers of sulphur and cream of tartar, equal parts, a heaped tea-spoonful with molasses every night and morning ; or the person may chew a little rhubarb at his leisure. In bilious habits, and such as are troubled with indigestion, no laxative is to be preferred to a pill composed of one or two grains of ipecacuanha, and the same quantity of rhubarb taken once or twice in a day ; if it excite nausea, reduce the quantity of ipecacuanha.

The following composition has been found to produce the effect of a mild laxative in costive habits.

R. Charcoal in fine powder, ℥ iij.
Lenitive electuary, ℥ iij.
Carbon. Soda, ℥ ij. M.

Dose, from half to one ounce every day.

In obstinate constipation, one of the best and most sure cathartics is equal parts of castor oil and the oil of turpentine ; half an ounce of this mixture, taken every two hours will seldom fail to procure a cathartic operation and give relief. A very active cathartic medicine lately introduced is the oil of the croton tiglium, one of its peculiar advantages is the smallness of the dose, two drops is the extent, this, when formed into a pill, will in general

effect an evacuation after other purgatives have failed. In a very torpid condition of the stomach and intestines I have derived advantage from a few doses of the volatile tincture of gum guaiacum, as a stimulant. For an account of the successful practice in obstinate constipation, by Dr. Hosack, the reader is referred to Enteritis, page 388, of this volume.

Genus III.—ISCHURIA, OR SUPPRESSION OF URINE.

A total suppression of urine is termed Ischuria, and refers more particularly to a defect of the secretion of urine by the kidneys, while a retention implies an inability to expel by the natural efforts the urine contained in the bladder. Persons advanced in life are particularly subject to this complaint, which often arises from neglecting or resisting the calls of nature, and retaining the urine too long, or from a paralysis of the bladder. This complaint, to which all are liable, may proceed from a variety of causes, and the particular symptoms commonly designate the original seat of the disease. It may arise from an inflammation of the kidneys or bladder; gravel, or small stones obstructing the urinary passages; a spasm, or contraction at the neck of the bladder; acrid injections, cantharides, either internally or externally applied; tumour or ulcer of the prostate gland; hard fæces lying at the bottom of the rectum; a large extension of the hæmorrhoidal veins; pressure of the pregnant uterus, &c. When the cause of ischuria exists in the kidneys, the patient complains of pain or an uneasy sensation of weight in the region of the kidneys, without any tumour, or fulness about the bladder, or inclination to make water, and is often accompanied with numbness of the thigh, nausea and vomiting. When the ureters are the part affected, there is a sense of pain or uneasiness in the course of those ducts. When the complaint proceeds from the bladder, there is a circumscribed tumour, or distention of the lower part of the belly, and an acute or obtuse pain is felt about the neck of the bladder, attended with a frequent inclination to make water. If the urethra is the part affected, there is a pain in some part of that passage accompanied with the symptoms last mentioned. If a scirrhus of the prostrate gland has occasioned the suppression, a hard indolent tumour, unattended with

any acute pain, may readily be felt in the perinæum, or by introducing the finger into the anus.

In all cases of suppression of urine it will be advisable in the early stage of the disease, to have recourse blood-letting from the arm in a quantity proportioned to the strength of the patient and urgency of the symptoms; and this should be followed by gentle purgatives of senna and manna, or Glauber's salts; emollient clysters, which tend not only to obviate costiveness, but have the effect of an internal fomentation, and allay the spasm of the bladder and contiguous parts, ought to be diligently employed. The warm bath, by sitting up to the middle of the body in warm water, or the application of emollient fomentations to the abdomen, will in general be found of much utility. We are advised, in every instance of this complaint, whether arising from inflammation, stricture, gravel, or spasm, to administer repeated doses of opium, but it will be more efficacious if combined with mild diuretics. The following preparation will seldom fail of affording more permanent advantage and relief in all the various complaints of the bladder and urinary passages than any other remedy. Take spiritus nitri dulcis, half an ounce, liquid laudanum, one drachm, two thirds or the whole for one dose, and repeat every half hour if necessary. The application of ice or snow to the pubis, or cold water to the feet and legs, while the patient stands on a cold stone, is said to have succeeded in removing a suppression of urine after other remedies had failed. Tobacco clysters and the tincture of tobacco in doses of thirty drops twice or thrice a day, have been known to have a happy effect. The simple application to the pubis of an onion poultice, has rendered very essential benefit. Dr. Thomas speaks with much confidence of the efficacy of the muriated tincture of iron in suppression arising from spasm; he directs ten drops to be taken every ten minutes until some sensible effect is produced. After six doses, the urine generally flows freely.

If a suppression of urine does not yield to the means above directed, the case becomes extremely urgent and dangerous, and the next resource consists in the introduction of the catheter, or a hollow bougie, for drawing off the water, the latter of which is on some occasions more easily introduced. In attempting this operation the greatest care is necessary to avoid the danger of injuring the urethra. If the catheter be directed incautiously, or unskilfully, it may tend not only to increase the inflamed state of the

urethra, but even to lacerate its membranous parts and force an artificial passage, and thereby render its introduction impracticable. When attempts to introduce the catheter have failed, it will be advisable to put the patient into the warm bath, and bleed from the arm to faintness, when the resistance will probably yield, and the instrument may be passed without difficulty. But there is a choice to be observed in the instrument to be employed. The elastic gum catheter is in most cases preferred by those who are most conversant in the operation. But whether this or the silver catheter be used, it should be as large as the urethra will easily admit. Under some circumstances much dexterity will be required to introduce the catheter. Sir Everard Home directs that it be introduced either towards the left or right side with the handle nearly in a horizontal line; and when it reaches the membranous part of the urethra, the handle should be gently and gradually brought towards the perpendicular line, the point all the time being kept in motion; and when it is nearly upright, the handle should be depressed. If it does not enter in this manner, by introducing a finger into the rectum and pressing upon the curved point of the catheter, we may give it a right direction, so as to guide it into the bladder. When necessary to introduce the finger *in ano*, a recumbent posture must be employed; but in other instances Sir E. Home prefers the standing position. Mr. Ware says, "The mode in which I pass the instrument is as follows: Being first thoroughly oiled, I introduce it into the urethra, with its convex part uppermost, and carry it as far as it will pass without using force; then I turn it *slowly* round so as to bring its concave side uppermost; and in doing this I make a large sweep with the handle of the instrument, and at the same time keep my attention fixed steadily on its apex, or inner termination, which I take particular care neither to retract nor to remove from its first line of direction. When the catheter is turned, it must still be pressed onward, and its handle at the same time gently depressed: by this method it will be made to enter the bladder." The catheter made use of by Mr. Ware is twelve inches long, which is more than an inch above the ordinary length; and the curvature larger than common; and with which he has succeeded often, where others of a different size and curvature had failed.

When from inflammation there is a constant irritation at the neck of the bladder, all straining to expel the urine should be

avoided, but it will be requisite to empty the bladder every six hours, in order to relieve the continued source of excitement by the acrid urine. It often happens that the internal surface of the bladder is so extremely susceptible of irritation, that a few ounces of urine retained in its cavity produces almost insupportable distress. This may be in a measure remedied by means of an elastic gum catheter, to which a gum-bottle is properly fitted, through which tepid water is to be injected into the bladder; thus substituting a bland liquid in place of the acrid urine. In all instances of ischuria, the patient should make a very liberal use of various bland mucilaginous substances, such as gum arabic, marsh-mallows, barley water, and linseed tea, taken into the stomach. The administration of opium will be found indispensably necessary, both by the mouth, and frequently by way of enema. Camphor is another medicine of value in this complaint, it should be combined with opium in the form of pill, of about four grains of the former and one of the latter, to be given occasionally. Or camphor may be given in doses of about eight grains mixed in milk, to which fifteen or twenty drops of laudanum may be added. The uva ursi and the pyrola umbellata are deserving of some confidence as remedies in this complaint; they will be more particularly noticed under the head of dysuria and strangury. If the suppression is produced by small gravel imparted in the urethra, injecting sweet oil, or warm milk and water will be useful. Should it be ascertained that ischuria is caused by an enlargement of the prostate gland, our best means of relief are frequent bleedings from the perinæum by the application of leeches, assisted by cooling purgatives, opiate clysters, and the tepid bath. When a total retention of urine continues, and all the means of relief have proved ineffectual, and the introduction of the catheter is found to be impracticable, it only remains for the patient to submit to the surgical operation of puncturing the bladder, either above the pubis, or with a trocar through the rectum. I have in one instance operated above the pubis with a happy result in a case where the bladder was vastly distended, and thereby rescued the patient from the most imminent danger.

Genus IV.—DYSURIA, OR STRANGURY.

Dysuria is a partial suppression of urine, and may be with or without a sensation of heat. When there are frequent painful or uneasy urgings to discharge the urine, and it passes off only by drops, or in very small quantities, the disease is called a *strangury*. When a sense of pain or heat attends the discharge, and it passes with difficulty, it is termed *heat of the urine*. Dr. Cullen distinguishes six species.

The causes of this complaint are various, as caruncles in the urethra, a stone in the bladder or urethra, spasm or inflammation, acrimony in the urine, the venereal clap, or a scurvy, cantharides taken internally, or externally applied, a deficiency of mucus for lubricating the urinary passages. Chronic dysuria is mostly occasioned by a translation of gout or some other disease to the urinary parts. I have observed one instance of dysuria from a repulsion of cutaneous eruption. In distinguishing the stone in the bladder from simple dysuria, we must observe that the former comes on in violent paroxysms, attended by tenesmus, and the flow of urine when begun is checked in its course, which is not the case in dysuria. A stone in the bladder may be detected by sounding, and calculi passing the urethra may be felt by the finger when far advanced, or reached with a probe. Heat of urine does not arise from an increase of its natural heat, but from its irritating a tender and often an inflamed part.

Dysuria is not a dangerous disorder, but it is both troublesome and difficult to cure, particularly in aged persons. Strangury is usually attended with a mucous sediment in the urine, which is sometimes mistaken for pus. In every instance of strangury, dilution by the use of mucilaginous liquids is highly necessary: all injections are useless, as they cannot reach the seat of the complaint. Bathing the penis, and particularly the glans, will often relieve by communicating the relaxation to the vessels above, and warm brandy or other stimulant applications to the perinæum, will be often beneficial, as will fomentations with emollient herbs. A starch clyster, with opium, almost immediately relieves. Internally, opium and camphor are highly useful. The cooling power of the latter is very soon felt in the urinary organs, and it often appears to be quickly effectual, according to Dr. Parr. In the

form of Dover's powder, the opium is of great service. Cooling laxatives and diuretics which operate without any stimulus, ought not to be neglected. The uva ursi has long been known in medicine for its astringent and tonic powers, and for the cure of various affections of the urinary organs depending on debility. Dr. De Haen, of Vienna, has bestowed very high encomiums on uva ursi, as a remedy in ulcerations of the kidneys, bladder, and urinary passages. In our own country it has been employed in nephritic and calculous affections, with decided good effects. The late Professor Barton was well acquainted with its properties, and esteemed it highly for its astringent effects. If its reputation is on the decline, it may be ascribed in part to a want of a steady perseverance in its use. The usual dose is from twenty to thirty grains of the powdered leaves, three or four times in the twenty-four hours. Dr. Ferriar combined opium with it, and found that it always relieved, and frequently effected a cure. Another of our indigenous productions has of late attracted notice as an efficacious diuretic, and well adapted to the cure of the complaints before us. It is the pyrola umbellata, or winter green of our woods. This appears to be allied in its properties to uva ursi, and has certainly proved to be a useful palliative in strangury and nephritis, in the hands of respectable practitioners. Dr. Wolf, a German writer, has reported a number of cases of ischuria and dysuria, in which the pyrola produced the most evident relief, and even took precedence of a variety of remedies which had been tried. We have, in fact, the best authorities, both European and American, to warrant the assertion that the pyrola deserves to be classed among our diuretics of superior virtues. It possesses the property of a tonic with its diuretic effects, so that the appetite is improved and digestion promoted during its employment. This medicine may be given in the usual form of decoction or infusion, to any extent that may be agreeable to the patient. The common parsley cultivated in our gardens, possesses diuretic properties, and is often used with advantage. We have the authority of the late Dr. Rush to speak in its praise. Professor Chapman, of Philadelphia, says, "Every part of this plant is actively diuretic, but an infusion of the roots is generally used. I have prescribed the seeds with equal advantage. No diuretic is more valuable in some cases than this. It is adapted to the ordinary suppressions of urine, to strangury from blisters, and to painful micturition from nephritis; and what in-

creases its value is, its being retained under all circumstances of the stomach." That nothing may be omitted that is calculated to mitigate the sufferings attending strangury, I will introduce to notice yet another article, the produce of our soil, which has gained a share of confidence as a diuretic in domestic use. I refer to the button bush, or river bush, *cephalanthus occidentalis.* It is from common report only that this article has fallen under my observation, having been informed that persons labouring under dysuria or strangury, who have been accustomed to the use of the button bush, place more confidence in its efficacy, than in the prescriptions of experienced physicians. That its diuretic and palliative qualities are very considerable, has been satisfactorily ascertained. A description of this article will be given in the Appendix. The author has been more diffuse on this subject, from the belief that too little attention has been paid by our physicians to the diuretics to be found among our indigenous plants. But although the articles above mentioned have been tested by pretty ample experience, the reader should be reminded that occasions may occur in practice in which he may be disappointed in his expectations. Due allowance should always be made for amplification of language in giving account of the properties of remedies newly introduced.

Genus VI.—AMENORRHŒA.

That periodical discharge of sanguineous fluid which takes place every month from the uterus, is termed menses or catameniæ ; and upon the regular recurrence of which the health of females essentially depends. This evacuation commences at a much earlier period of life in warm climates than in cold ones, and ceases sooner in proportion to its earlier or later commencement. In our climate, the age of about thirteen or fifteen is the usual period in which this important change in the female constitution takes place, and the age of about forty-five or fifty is that in which it terminates, and with it the capability of bearing children.

At the age of puberty, when the uterine evacuation first appears, the constitution undergoes a considerable change in many respects ; it is to be regarded as an important and critical season in the life of females, and with their conduct, not only during the first men-

struation, but in all its subsequent returns, their future health and enjoyments are intimately connected.

The interruption of the menstrual discharge is of two kinds; when it does not begin to flow at the time in which it is usually expected, it is termed a retention; but when, after having taken place, it ceases to return at the usual periods from other causes than conception, it is called a suppression of the menses; and both of these incidents are implied in the technical term *amenorrhœa*. The quantity of the discharge varies according to the climate and constitution of the woman. About four or five ounces is the usual quantity discharged gradually, during the space of from three to six days, at each menstrual period. The menses are naturally suspended during pregnancy and while nursing; but if suckling be too long continued, the menses return, and the milk disappears or becomes impaired and unfit for the nourishment of the child. The revolution which the periodical discharge induces in the female constitution, is not effected all at once, a number of preceding complaints in some instances announce its approach. A general languor and weakness, depraved appetite, impaired digestion, frequent head-ach, a sense of heat, weight and dull pain in the loins, distention and hardness of the breasts, lassitude and paleness of the countenance, often distress the young female several weeks or months before the discharge appears; but soon cease after the evacuation takes place. On the appearance of the above symptoms about the age at which the sexual discharge usually begins, every thing which may tend to obstruct that salutary evacuation should be studiously avoided, and every endeavour to promote it ought to be enjoined. If at this critical time of life, young females indulge themselves in indolence or unwholesome food, instead of practising active exercise and enjoying the invigorating quality of fresh air, amusements, and a mild but nutritious diet, they become relaxed, the natural functions are impaired, menstruation is obstructed, and a train of evils, both general and local, never fail to ensue, and often lay the foundation for consumptions or other fatal diseases. During the process of menstruation, all food of hard digestion, acid and unripe fruits, and whatever is liable to sour upon the stomach or chill by its coldness, must be particularly guarded against; but nothing is of more importance than to avoid catching cold, as the most dangerous consequences might result from such accident. Instances have been recorded of obstructed catamenia being induced

by drinking cold water during the period, and which have terminated fatally. All great affections of the mind, such as sudden surprises, frights, violent passions, particularly grief and anger, are also extremely prejudicial; while wholesome diet, exercise and cheerfulness, are all conducive to the promotion of this salutary evacuation.

The retention of the menses is frequently attended with *chlorosis*, called also *green sickness*, known by a feeling of weariness and debility, with dislike to active employments; a pale or sallow complexion, cachectic appearance, œdematous swelling of the legs and feet, flatulency and acidity in the stomach, loathing of food, but an inclination for indigestible substances, as chalk, lime, and sand; pains of the head, and different parts of the body, swelling of the abdomen, with hysteric symptoms, such as palpitation of the heart or dyspnœa; and if this state be not soon removed, it is apt to end either in consumption or dropsy. The chlorotic condition just described, is in almost every instance to be ascribed to a general debility of the system; and accordingly the most successful mode of treatment consists in improving the health and increasing the strength of the patient in general, and exciting the action of the uterine vessels in particular. Dr. Hamilton considers chlorosis as depending on costiveness; this inducing the feculent odour of the breath, disordered stomach, depraved appetite, and impaired digestion, which attend this disease. His first intention is to thoroughly evacuate the intestinal canal, after that, if necessary, to promote the recovery by tonic medicines. The defective energy of the system will be restored by constant moderate exercise, particularly walking: a nourishing and digestible diet with a proper proportion of wine; the administration of tonic medicines, as aromatic bitters and the Peruvian bark; but by far the most efficacious remedies are the different preparations of iron, such as the chalybeate waters, the muriated tincture of iron, the phosphate or the carbonate of iron. Dr. Griffith's myrrh and steel mixture, or the same ingredients formed into pills, will be found eminently serviceable. The following composition is also well adapted to the various circumstances of the chlorotic patient. Take of filings of iron, two ounces, Peruvian bark roughly powdered and orange peel, each one ounce, infuse them for a week or ten days in a quart of Lisbon wine or pure cider, and then filter the tincture and give half a wine-glass full of it twice a day. A large spoonful of

a saturated tincture of pennyroyal has been known to produce very favourable effects, composing and inducing sleep when taken at bed time. Strict attention should be paid to the state of the bowels, which in this disease are generally torpid, and have great power of communicating to the rest of the system a similar state. Some stimulating cathartic, therefore, should be administered once or twice a week, or small doses every night; for this purpose there is none to be preferred to the pills of aloes and myrrh, to each dose of which about two grains of the powdered root of our swamp hellebore should be added. In some instances, where admissible, the sexual intercourse may be recommended as the most natural and effectual remedy. With the view of exciting still farther the action of the uterine vessels, the patient should be enjoined to use active exercise and frequent friction of the body and limbs, warm pediluvium and fomentations to the lower part of the abdomen, and on some occasions the warm bath, or sitting up to the hips in warm water. Electricity, when directed in the form of either sparks or small shocks, about the region of the uterus, has frequently been attended with the most speedy and salutary effects.

When the menstrual discharge, after having been once established, is interrupted in its regular recurrence, it is first to be ascertained whether the suppression is occasioned by a state of pregnancy, as both the welfare of the woman, and the credit of the physician, may sometimes be affected by deceptive appearances. If, however, pregnancy be the cause, it will soon be decided by its peculiar progress and effects.

A suppression of the menses generally arises from the operation of those causes which induce debility of the system at large, and a defective action of the uterine vessels, such as cold at the time of menstruation, passions of the mind, fear, inactivity of body, the frequent use of acids and other sedatives. The symptoms are head-ach, pains in the back, loins, and knees, accompanied with hysteric and dyspeptic complaints; colic pains, nausea, œdematous swellings of the legs, and costiveness; hæmorrhages from the nose, lungs, stomach, and other parts, are often the consequence of suppression, and they sometimes observe a monthly period, but oftener appear at irregular intervals. In some instances, nausea, tumour of the abdomen, and other indications of pregnancy, are produced by uterine obstruction. When suppression of the menses takes place in consequence of some obstinate

chronic disease, as consumption or dropsy, it would be both useless and hurtful to attempt, by stimulating emenagogues, to restore the evacuation. But in suppression arising from cold, fear, or some removable cause inducing debility of the system, or constriction of the vessels of the uterus, the curative remedies ought immediately to be employed. When obstructions are occasioned by a relaxed habit of body, the proper remedies are those which brace the solids, promote digestion, and give force to all the powers by which the natural functions are conducted. The means which have been advised for the removal of a retention of the menses, are those best adapted to our present views; and the prescriber may select such forms as accord with his judgment, and are most agreeable to the patient. With the tonic plan of treatment it will often be requisite to employ some emenagogue medicines, such as savin, from twenty to thirty grains of the powdered leaves, or three or four drops of the essential oil twice in a day, or the tincture of black hellebore in doses of one drachm thrice in twenty-four hours; and if this should not produce a purgative effect, the aloetic pills before mentioned ought to be given occasionally. In obstinate cases of suppression, it is recommended as highly beneficial about the time when the menses are expected to appear, to administer an emetic and direct the patient to sit during the operation in a warm bath, up to the middle of the body. It should be observed, that in general our endeavours to restore or promote the menstrual flux are most likely to prove successful when directed at the time of its expected return, or when some natural efforts for that purpose are observable. Another medicine of approved efficacy in many cases of obstructed menses, is calomel, either alone, or combined with opium, in small doses; when judiciously administered it has proved peculiarly beneficial. When the complaint depends on spasmodic constriction of the uterine vessels, and is attended with hysterical symptoms, the root of skunk cabbage, in doses of one drachm of the powder twice or thrice daily, will probably afford the most essential relief; and the extract of stramonium has been reported to have proved successful in similar circumstances. Camphor is also a valuable antispasmodic medicine in these circumstances; about six or eight grains may be taken in milk twice a day.

It must be recollected that irregularities in menstruation are sometimes symptomatic, and that the original disease should be re-

moved previous to any efforts for promoting the natural sexual discharge by means of stimulating emmenagogues.

When a woman, upon the sudden suppression of the menstrual discharge, is affected with febrile symptoms, as a hot skin, accelerated pulse, flushing of the face, pains in the chest, back, and uterine region, or in the bowels, stimulating medicines will prove injurious; and should there be dyspnœa with pain about the side or breast, increased by inspiration, it will be necessary to take some blood from the arm, and to administer a saline purgative dissolved in a large quantity of warm water, to which one or two grains of the tartrite of antimony may be added. After the febrile symptoms are removed, the myrrh and steel mixture or other chalybeate preparation will be advisable; and as an efficacious emenagogue, the black hellebore will often be found useful. It seems to be satisfactorily ascertained that ergot deserves to be classed among our most powerful emenagogue medicines. This has certainly succeeded in the removal of obstructed catamenia in several instances. We find recorded in the New-England Journal, Vol. V. p. 162, seven cases of amenorrhæa in which ergot was administered, in six of which permanent cures were effected. In one case six ounces of the medicine was taken in about ten days, prepared by boiling one ounce in a quart of water down to a pint. But the usual quantity was half an ounce per day, and in no instance were any ill effects produced by the medicine.

Amenorrœha succeeding to abortion, laborious parturition, or fever, on some occasions assumes the form of pulmonic consumption, from which it is difficult to discriminate, and if great attention be not paid to improve the health and restore the tone and energy of the system, it may lead to a fatal termination. In this instance, the pulse although frequent, is not liable to the same regular exacerbation as in hectic; a full inspiration gives no pain and little excitement to cough; the person can lie with equal ease on either side; the cough is not increased by motion, nor by going to bed, but it is often more severe in the morning, and is accompanied with a trifling expectoration of phlegm. It is not short, like that excited by tubercles, but comes in fits and is sometimes convulsive, whilst palpitation and many hysterical affections, with a timid and desponding mind, accompany these symptoms. Under these circumstances it will be of much utility to administer occasionally an emetic of ipecacuanha and sulphate of copper, as in phthisis pul-

monalis, and to keep the bowels soluble by saline laxatives; mild pectoral medicines will be serviceable, and an opiate should be given at night. Exercise, a free country air, and a mild diet, chiefly of milk, will be indispensably necessary.

When obstructions proceed from violent affections of the mind, every endeavour calculated to soothe and tranquillize ought to be exerted; for this purpose a change of place, amusements, and cheerful company are of much importance.

There is another irregularity or deviation from the natural process of menstruation, which is called *dysmenorrhœa*, in which there is a deficiency in the quantity, and the evacuation is accompanied with severe pains in the head, back, and loins, owing probably to an imperfect menstrual action. This complaint may be obviated by chalybeates, the warm bath, or semicupium, which should be employed for a day or two previous to menstruation, and repeated every night during its continuance; opiates combined with ipecacuanha should be given to relieve the pain, and the bowels are to be kept open by mild saline laxatives.

It remains to be observed that the use of the chalybeate waters of Saratoga and Ballston, are calculated to render important services to females labouring under the complaints of which we are treating. The change of scenes, air, and exercise, with the amusements and cheering incidents to be found at this fashionable resort, are peculiarly conducive to a restoration to permanent health and spirits.

Class VI.—NEUROSES, OR NERVOUS DISEASES.

Diseases for the most part primarily resident in, or manifested by, affections of the brain, and other parts of the nervous system.

Order I.—ASPHYXIA.

The characteristics are a sudden and total suspension of all mental and corporeal functions.

Persons Apparently Drowned.

It is now a well established fact that the principle of life may lie dormant in the body after it is apparently dead, and that it may be resuscitated and rescued from a premature grave by the means recommended by the various humane societies instituted in our country.

As soon as the body of a person recently drowned is taken out of the water, it must be carefully conveyed with the head raised to a house or other place where it can be laid dry and warm, avoiding the destructive methods of *hanging it by the heels*, *rolling it on a barrel*, or *laying it across a log on the belly*. The clothes must be immediately stripped off, and the body wrapped up in blankets well warmed. It should be laid on its back, with the head a little raised. If the weather be cold, it should be placed near a fire, and a heated warming-pan should be passed over the body; but in warm weather it will be sufficient to place it between two blankets well heated, or in the sun-shine, taking care to prevent the room from being crowded with any persons who are not necessarily employed about the body. At the same time the whole body should be rubbed with the hand or with hot woollen cloths. The rubbing should be moderate, but continued with industry, and particularly about the breast. Apply also heated bricks to the feet, belly and breast. The immediate application of frictions is of the utmost importance, as many have been recovered by frictions only, when early used.

As soon as it can possibly be done, a bellows should be applied to one nostril, while the other nostril and the mouth are kept closed, and the lower end of the prominent part of the wind-pipe (or that part which is called by anatomists pomum adami) is pressed backward. The bellows is to be worked in this situation; and when the breast is swelled by it, the bellows should stop, and an assistant should press the belly upwards to force the air out. The bellows should then be applied as before, and the belly again be pressed; this process should be repeated from twenty to thirty times in a minute, so as to imitate natural breathing as nearly as possible. Some volatile spirits heated may be held under the valve of the bellows whilst it works. If a bellows cannot be procured, some person should blow into one of the nostrils through a pipe or quill, whilst the other nostril and mouth are closed as before; or

if a pipe or quill be not at hand, he should blow into the mouth whilst both nostrils are closed; but whenever a bellows can be procured it is to be preferred, as air forced in by these means will be much more serviceable than air which has already been breathed. During this time a large quantity of ashes, water, salt, or sand, should be heated, and as soon as it is milk warm the body must be placed in it; the blowing and rubbing are then to be continued as before; and when the water, ashes, or salt, are cooled, some warmer must be added, so that the whole may be kept milk warm. Loud noises have sometimes proved successful in recovering such persons and restoring to life. When signs of returning life are apparent, the frictions must be continued, but more gently. These methods must be continued three or four hours, as in several instances they have proved successful, although no signs of life appeared until that time. When the patient is able to swallow, he must take some wine, brandy, or rum and water.

The following process, recommended by Dr. A. Trowbridge, is from the Boston Medical Intelligencer.

The application of a suitable degree of heat and friction to the surface of the body, and particularly to the extremities; and inflating the lungs with warm air mixed with vapor from hot alkali, artificial breathing, and stimulating cordials introduced into the stomach, are the most important means to be used. The following plans to effect these objects, can be made more effectual than any which I have known.

To apply Heat.—Be provided with a woollen sack, seven feet long and three broad, made tight at the bottom, with a leathern tube passing out two feet long of two inch caliber; let the upper part of the sack, near its edge, on the inside, be lined with velvet, and a worsted string put in, so that it can be drawn close round the neck of the patient; let there be an opening on each side, sufficiently large for the introduction of the hand and arm, for the purpose of friction; this should be done with a dry flannel cloth, or a coarse woollen glove. Be provided with Jennings' apparatus for a vapor bath, made of sheet iron, with a tube two feet long and one inch caliber, with a stop cock, a gill of alcohol, and a lantern with a lighted candle.

On receiving the body, stripped, and wiped dry, place it in the sack. Tie the leathern tube passing out of the lower end of the sack, to the tube of the vapor machine. Fill the cup in the

base of the machine, with alcohol, and touch it with the lighted candle: the vapour, or gas, passes into the sack, and around the body of the patient, and gives a very agreeable and invigorating warmth, without moisture. The whole of this application can be made in two minutes, as much heat let on as is wanted, and regulated at pleasure. If a room, bed, matrass, &c. can be obtained without loss of time, improve them; if not, the body may be placed on the ground, on boards, or any other dry substance, and your restorative process carried on till other means are furnished: remember that time is important at this juncture; a few minutes delay loses the patient.

Inflating the Lungs.—This can be best effected by a bellows communicating with a flexible pipe introduced into the larynx; or if this cannot be readily done, through an aperture made between the rings of the trachea. It is folly to depend on blowing with the mouth, or through a quill or pipe; the accumulation of froth and mucous, will prevent a full inflation of the lungs in this way. The bellows recommended by Dr. Hunter in his *Philosophical Transactions*, is the best: but the small common ones will answer very well. For the purpose of introducing salutary gases with atmospheric air, a leathern tube may be fastened near the opening in the under part of the bellows, and to a bottle containing the gas; when the bellows is filled, some of this gas would be received with the atmospheric air, and be thrown into the lungs. When the air is introduced, the thorax should be pressed, and the abdominal viscera raised against it, to change in some manner its capacity; for when a train of associated motions has begun, they are often continued from whatever point they may have commenced. While the lungs are thus stimulated, the stomach, the important organ with which the whole system so evidently sympathizes, should not be neglected. By introducing a flexible tube, any stimulating fluid or cordial, can be injected. The body, during this process, should be placed in a semi-erect position.

The process of reanimating a lifeless body is the most interesting that the physician meets with. Decision, promptitude, and energy, must attend every step; not so much for the purpose of doing a great deed, as for the purpose of doing what is necessary, with despatch and correctness.

Bleeding or purging ought not to be used without consulting a physician, who should be called in as soon as possible: but clysters

of salt and water may be injected. Where either convulsions or stupor and head-ach remain after the person has come to himself, the physician will doubtless see the propriety of drawing off a small quantity of blood, either by the lancet or the application of leeches to the temples, but where these symptoms do not prevail, the loss of blood will be injurious.

The means above recommended are likewise applicable in the case of suspension by the cord. But in the circumstance of strangulation, a few ounces of blood must be taken from the jugular vein or arm ; or cupping-glasses be applied to the head and neck, and leeches to the temples.

Noxious Vapours.

Suffocation and immediate death may be occasioned by entering wells, cellars, caverns, or mines, that have long been kept closely confined from the atmospheric air. The deleterious fumes arising from burning charcoal, or those from fermenting liquors, &c. may likewise produce the same fatal effects, if imprudently received by any person into the lungs. The external appearances of persons thus suffocated are as follow : the head, face, and neck are swollen ; the eyes are propelled from their sockets ; the tongue is protruded at one side of the mouth ; the jaws are firmly closed ; the face is of a livid, and the lips are of a deep blue colour ; the abdomen is inflated ; the body is insensible to pain, and the person appears to be in a profound sleep. No person therefore ought to venture into any such place where a long stagnation of air has produced mephitic vapours, until these have been sufficiently corrected by the explosion of gunpowder or some combustible substance burnt, and a free ventilation of the infected place. The safety of such suspected places may be ascertained by first letting down a lighted candle or burning fuel ; if these continue to burn, it is a proof that the air is pure ; but if the flame be suddenly extinguished, no person can enter without immediate suffocation and death. Immediately on discovering a person apparently dead from such cause, the windows and doors ought to thrown open, and the body be undressed and exposed freely to cool air, the face be sprinkled with vinegar, and cold water be thrown from buckets over the whole body for some time. If this method fail, frictions and the other means recommended for the recovery of drowned persons should be put in practice.

Fatal Effects of Lightning.

The circumstance is worthy to be regarded in every family that lightning is conducted with more facility by some substances than by others, and indeed that some substances are non-conductors. The substances which are the greatest conductors are all metallic bodies, as gold, silver, platina, brass, iron, tin, and lead: also, water, ice, snow, green wood, and most earthy substances. Non-conductors are glass, sulphur, resin, silk, cotton, feathers, wool, hair, paper, ashes, and most hard stones and bricks. During the time of danger from lightning, we should carefully avoid standing or sitting near any of the conductors within doors, and when in the open field, no safety will be found by resorting to trees for shelter, especially such as have dry or dead branches about them. Whilst within doors, it will be safest to avoid being near the furniture of the fire-place, the wires and cords of bells, picture-frames, and other gilt furniture. The doors and windows should be opened for a free passage of the flashes of lightning, and the middle of the room should be chosen as the most secure situation for the family, and if sitting on matrasses or couches filled with hair, wool, or feathers, it would be an additional security. "When lightning exhibits a deep red colour, it is seldom accompanied with dangerous consequences; but if the flashes be bright, pale, and in a zig-zag direction, destruction generally marks their course."

Persons injured by a flash of lightning, though apparently dead, may in many instances be restored by proper and timely applications. In general there are no external marks discoverable, though sometimes red streaks appear on different parts. The treatment to be pursued for the restoration of persons suffering injury from lightning, is precisely the same as that for persons suffocated by noxious vapours. The sprinkling with vinegar, and the affusion of cold water are the principal means to be employed. In some instances of suspended animation, electricity may be successfully directed.

Of Frost-Bitten, or the Effects of Intense Cold.

When persons are exposed to an intense degree of cold greater than the body is capable of sustaining, the vessels upon the surface, particularly the extremities, are constricted, by which the circulation is obstructed, an unusual quantity of blood is forced towards

the brain, and a fatal apoplexy is generally the consequence. The first alarming symptom is a drowsiness or almost irresistible propensity to sleep, and if this propensity be indulged, it will assuredly prove the sleep of death. Whenever, therefore, a person is long exposed to extreme cold, it should be recollected that his safety greatly depends on the constant motion and activity of the body, and firm resolution to resist the propensity to drowsiness. If unfortunately a person has suffered by exposure to extreme cold, so that every symptom of life has disappeared, the only proper method of treatment consists in placing the naked body in a cold room or in a situation distant from a fire, and immediately cover it, except the face, with a bed of snow, or plunge it into a bath of the coldest water for some time, and when taken out the whole body should be thoroughly rubbed with cloths wet with cold water. The immersion and the friction should be repeated and alternately applied for a length of time ; for instances have occurred of persons being restored by a steady perseverance in the process, when no signs of life had been discovered for several hours. When symptoms of animation appear, external warmth must be very gradually applied, and when the patient is able to swallow, a cup of tea or a little wine or brandy may be allowed.

When the hands or feet have been exposed to severe cold, and have become benumbed or frozen, the excitability of those parts will be so much stimulated that if they are brought near a fire, a violent inflammation, and probably a mortification, will ensue. External heat should on no account be applied, but the frozen parts ought to be immediately covered with snow, or immersed in cold water until they recover their natural warmth and sensibility, and if necessary, the applications and the friction should be repeated, and continued for several days, and afterwards the external warmth must be applied in a gradual manner. The application of goose grease, or the fat of common fowls, has been successfully employed as a remedy to frozen limbs, even when the parts were perfectly black. The parts should be kept constantly covered with the grease.

APOPLEXY.

An apoplexy is a sudden deprivation of the internal and external senses, and of voluntary motion, while the heart, lungs, and arteries, continue to perform their actions. It is most incident to persons in the decline of life; and those of a corpulent habit, with a short neck and large head, and who lead an inactive life, use a rich and plentiful diet, or drink to excess, are the most liable to its attacks. It is in some instances preceded by a vertigo, and pain in the head, drowsiness, noise in the ears, loss of memory, and a difficulty of breathing. It may be occasioned by any cause which increases the motion of the blood towards the brain, or prevents its return from that part, violent passions, rich and luxurious diet, and a free use of ardent spirits, excess of venery when advanced in life, the suppression of any customary evacuation, suffering the body to cool too suddenly after being much heated, wearing any thing too tight about the neck, and the sudden disappearance of eruptions; as also blows, wounds, and other external injuries. Some modern practitioners have advanced the opinion that apoplexy has its origin in the stomach, and the brain is secondarily affected by sympathy. This opinion is reported to be confirmed by numerous dissections both in France and England, in which the cause was demonstrated to be a diseased state of the stomach, while in the brain little or no morbid affection was detected. It is, however, scarcely to be doubted that the brain and nervous system are in general primarily affected; and that the usual distinction between the *sanguineous* and *serous* apoplexy must be constantly kept in view, as the mode of treatment is essentially different.

In sanguineous apoplexy, there is supposed to be a preternatural distention of the blood-vessels, or extravasation of blood upon the brain, while in the serous apoplexy, instead of red blood, the serum from the exhalant vessels is accumulated in such quantity, as to produce the compression. Apoplexy, in some instances, has been supposed to originate from some peculiar condition of the brain and nerves alone, by which the motion of the nervous power is interrupted, or it may be symptomatic of other diseases. The patient, when seized with this disease without much previous indisposition, falls down suddenly, his face is flushed and bloated, the veins of the head, particularly the eyes, temples, and neck, are turgid, the head feels hot, the eyelids are half open, and

rigid, the patient appears to be in a deep sleep, and breathes with great labour and difficulty, and with a peculiar loud snoring or stertor; the pupils of his eyes are for the most part dilated, but in some instances remarkably contracted. One side of the body is commonly more affected than the other, which condition is termed hemiplegia. The pulse in most instances is full and strong, but slower than natural. In the serous apoplexy, the pulse is weaker, the countenance less ruddy, and the breathing less oppressed than in the sanguinary. The paroxysms continue from eight to forty-eight hours. Cases have occurred in which the patient has continued for several days insensible and motionless, and yet gradually recovered to a comfortable condition; but more frequently, if not immediately fatal, the result is a permanent deprivation of the use of one side, and imbecility of mind and body during the remainder of life. Those who have once suffered an apoplectic fit, are sooner or later seized with a second or third attack, which has a fatal termination. Dr. Cooke considers a contracted pupil one of the most dangerous symptoms of the disease, never having known a person recover from apoplexy when the pupil was greatly contracted. When a patient is seized with a paroxysm of apoplexy, he should immediately be placed in a spacious apartment, in which cool air may be freely admitted, and put in a posture which the least favours a determination of blood to the head: all ligatures, especially those about the neck, should be speedily removed, and the legs and feet should be placed in warm water, or rubbed with stimulating applications. No time should be lost in drawing from the arm or jugular vein such quantity of blood as the urgency of the case imperiously demands. If evident signs of relief are not perceived, and there be no reasons to fear an exhaustion of the vital powers, the operation may be repeated a second or even a third time within two or three hours, or a number of leeches or cupping-glasses may be applied to the temples, to diminish the pressure on the brain. "Dr. Rush carried bleeding in apoplexy farther than had been usual before his time. He considered the importance of the part affected and the urgency of immediate danger, to warrant extraordinary losses of blood in the most perilous disease. In his own energetic language, he advised his pupils 'to bleed not only by ounces or in basins, but by pounds and by pailfuls; and that the head of the patient should be subjected to a stream of the coldest water, from a pump or otherwise,

till a bleeder was procured.' It is well known in Philadelphia, that in conformity to these ideas, Dr. Physick, at one bleeding, drew ninety ounces, by weight, (or nearly one fourth of the usual quantity of blood in the human body,) from Dr. Dewees, in a sudden attack of the apoplectic state of fever, and thereby restored him so speedily to health, that he was able to attend to his business in three days afterwards."*

Cases will occur in practice in which the use of the lancet to the full extent will appear inadmissible, especially in serous apoplexy, but the shades of distinction are so obscure, that the practitioner must be guided by existing circumstances and the effect produced. Immediately after a very copious depletion by the lancet, and indeed in all cases of apoplexy, the most prompt evacuation from the alimentary canal is of indispensable importance; adequate doses of calomel and jalap should be given at proper intervals, until the object be fully accomplished. Solution of neutral salts, with infusion of senna, together with stimulating clysters, should at the same time be diligently administered. Blisters are next to be applied to the nape of the neck and to the extremities, accompanied with frictions and strong sinapisms to the soles of the feet, and cold water or vinegar may be applied over the whole head. Emetics have been sometimes advised in this disease, but in sanguine apoplexy the straining in the operation may have a tendency to increase the extravasation, if not to rupture a vessel; but in the serous species, or where there is good evidence that the disease proceeds from a surcharged stomach, an emetic is both safe and advantageous, by freeing the stomach from morbid acrimony, rousing the general system, and determining from the head to the surface of the body: and if by this means a gentle perspiration should ensue, the effect would be still more beneficial. After the depleting means have been pursued, and the pressure on the brain diminished, the powers of life, says Dr. Hosack, have in many instances been restored by the free use of the volatile alkali given internally, and applied externally so as to excite vesications.

It remains to observe that although the apoplectic patient may have recovered from the first attack, yet he will be constantly subject to a recurrence of it, his constitution is greatly enfeebled, and at best he can have only a short respite from death; hence the interval is of great importance, and much depends on diet and

* Ramsay's Eulogy.

regimen. He ought to avoid all extremes of heat and cold, and guard against all violent commotions of the mind; his feet should be kept warm and dry, and he should abstain from heavy suppers, and wear his clothes loose about his neck, and lie with his head high, and above all, obviate a costive habit. Perpetual issues or setons have a salutary effect in preventing a return of this disease. A course of tonic medicines, a light nutritive diet, and moderate exercise, should also be recommended.

Lethargy, or Coma.

This is a species of apoplexy, which is manifested by an invincible drowsiness, or inclination to sleep, from which the patient is with difficulty awakened, and if roused, he remains destitute both of sense and memory, and slumbers instantly again. The remedies applicable to this affection are the same as those advised in serous apoplexy, but especially topical bleeding from the temples by leeches, or from the nape of the neck by cupping, and cathartics frequently administered. All stimulating substances, such as ardent spirits, strong wines, and tobacco in every form, ought to be avoided.

The Coup de Soleil, or Ictus Solarus of Dr. Parr. A Stroke of the Sun.

This complaint is not unfrequent in hot climates, from an exposure of the head to the immediate and powerful influence of the rays of the sun, and appears to be a species of apoplexy. The symptoms are, a violent head ach, a hot dry skin, a redness and heaviness of the eyes, sometimes a continual involuntary motion of the eyelids, a loss of sleep, drowsiness occasionally with delirium on awakening, violent fever, faintness, loathing, and thirst. Persons on some occasions have been struck with such violence as to die on the spot; others fall into a lethargy, or die in a few hours with symptoms of raving madness. It is seldom that such unfortunate subjects can derive essential benefit from any applications in our power to bestow; but the remedies which have been directed in serous apoplexy may be tried, and also cloths wetted in cold vinegar and water to the temples and over the whole head, after cutting off the hair.

PARALYSIS, OR PALSY.

This disease is frequently the consequence of apoplexy, and consists in the loss of the power of voluntary motion in certain parts of the body only; sometimes it is accompanied with a loss of sense or feeling, and there is often stupor in a greater or less degree. It most frequently affects the whole of the muscles of one side of the body, and then the disease is called *hemiplegia;* when the muscles of the lower half of the body, divided transversely, are affected, it is named *paraplegia;* and when a single limb only, it is termed *paralysis.* This disease, if it is not the effect of apoplexy, is often preceded by universal torpor, giddiness, and sense of weight or uneasiness in the head, dulness of comprehension, loss of memory, and a sense of coldness in the parts about to be affected; there is also sometimes tremor and pain in the part. But in general, palsy comes on with a sudden and immediate loss of the motion and sensibility of the parts; when the head is much affected, the eye and mouth are drawn to one side, the memory and judgment are much impaired, and the speech is indistinct and incoherent. When palsy attacks any vital part, such as the brain, heart, or lungs, it soon terminates fatally. In some instances, there is a total loss of sense, while motion remains entire; in others, a total loss of motion, with very slight, or even no affection of sense; and in some cases, while a total loss of motion takes place in one side, a total loss of the sense of feeling has been observed in the other. But most commonly there is a loss of voluntary motion while feeling remains.

Palsy is induced by whatever prevents the nervous power from acting on any particular part of the body. The more remote causes are, intemperance, certain poisons received into the body, particularly lead, suppressed evacuations, wounds of the brain or spinal marrow, spasmodic colic, old age, and debility of the nervous system, worms, &c. When the part affected feels cold, is insensible or wasted away, or when the faculties of the mind begin to fail, there is little hope of recovery, though the patient may continue for many years in a feeble helpless condition. A feeling of warmth, a slight pricking pain, or a sensation as if stung by ants in the part affected, are favourable symptoms, and if a fever ensue, there is a chance of its curing the palsy. When convulsions succeed to a palsy, the termination is almost inevitably fatal.

The curative plan in this disease is in the first instance similar to that in sanguineous apoplexy. If the patient be young, and of a full habit, bleeding, blistering, and strong purgatives and sharp clysters must be immediately employed. But when the disease proceeds from relaxation or debility, and the patient is advanced in life, an opposite method of cure must be adopted. The diet should be of a warm and strengthening quality, seasoned with spices or aromatic ingredients; and the drink ought to be generous wine, mustard whey, or brandy and water. A stimulating clyster should be immediately injected, and an emetic must follow the operation of it, and repeated occasionally. Volatile and stimulating medicines are next to be administered, such as the volatile alkaline salts and spirits. The seeds of mustard unbruised, a tablespoonful, and the same quantity of the root of horse-radish scraped and swallowed without chewing, if given night and morning, will prove extremely beneficial; or two ounces of each of the above may be infused in a quart of boiling water for four hours, and add to the strained liquor two ounces of the tincture of pimento, and a tea-cup full may be given three or four times in a day. Frictions on the parts affected, and along the spine, with warm cloths impregnated with the flower of mustard or tincture of cantharides, should be assiduously employed, as well as blisters and the volatile liniment to different parts of the body. The warm bath has been frequently used as an external stimulant in cases of palsy; the utility of this remedy, however, will depend entirely on the particular circumstances of the case. When there is evidently a diminished degree of vital heat or action, and the constitution is enfeebled, the warm bath will undoubtedly be productive of real beneficial effects. Electricity and galvanism are powerful remedies as external stimulants; they are often successful when moderately applied, and should perhaps in every instance be employed, and long persisted in. The swamp sumach, (rhus toxicodendron,) has been extolled as a stimulant in cases of palsy and extreme debility, and even in the palsy of the lower extremities from distortion of the spine. The powder of the dried leaves has been given from a third of a grain three times a day, to four or five grains; but from its deleterious qualities, much caution is necessary in its administration. In a palsy of the tongue, the patient should frequently gargle his mouth with brandy and mustard, and hold in it a bit of sugar wet with the compound spirits of

lavender, and the valerian root and mustard seed taken internally will also be useful.

In that palsy of the lower extremities arising from a deformity of the spine, when the ligaments which connect the vertebræ together are thickened, without any particular affection of the bones, the most successful mode of treatment is to insert issues as near as possible to the tumour; for this purpose, a large caustic should be applied on each side of the protuberant vertebræ, and the discharge promoted and kept up for a length of time, by sprinkling the sore with powdered cantharides; or instead of this, a seton may be preferred. In those paralytic affections proceeding from the poison of lead, a moderate course of mercury has proved of the greatest utility. (See nervous colic.) Those paralytic shakings or tremblings of the hands or other parts, which are frequently owing to intemperance, may in general be treated as a partial palsy, but chiefly by the external applications already mentioned. When the patient from a long continuance of the disease, sinks into a state of debility, with loss of appetite, he should have recourse to Peruvian bark and stomach bitters.

In every instance of palsy, the patient should take daily exercise if possible, either by walking or on horseback, as his strength will permit. Frictions with strong stimulants should on no account be neglected. Flannel must be worn next the skin, and all exposure to cold and damp air ought to be carefully avoided. In Townsend's Guide to Health, several cases are recorded of palsy occasioned by worms, and which were cured by anthelmintic medicines.

The use of splints in cases of paralysis of the muscles of the extremities, has been found of great utility. They should be applied in a manner similar to that practised in fractured limbs, being long enough to reach from one joint to another, and sufficiently firm to support the limb, and the apparatus to be removed every four or five days, and again replaced. In many cases of paralytic limbs, this method is said to have been attended with obvious advantages, and had a considerable influence in accelerating the cure. See New-England Medical Journal, Vol. IV. p. 332.

The author is induced in the present edition to offer the following condensed abstract from the very learned and elaborate work of Dr. M. Good.

The boldness of the practice, says Dr. Good, should be regulated by the nature of the exciting cause. Where there is over eating, or intoxication, eighteen or twenty ounces of blood may be taken away with advantage at once, in a few hours after twelve or fifteen more, and the venesection may be repeated a third, or even a fourth time, if necessary. Even in atonic apoplexy, he adds, it has been observed that venesection is occasionally necessary; and it may be equally necessary in atonic paralysis, for here also effusion may take place both of blood and of serum. But there are some cases in which it is altogether a venture, and others in which it is allowed on all hands to be injurious. Even Mr. Hunter himself recoils from the practice where hemiplegia is apparently a result of retrocedent gout, and we should be induced to abstain equally in all instances where there is a like diminution of sensorial power, in all instances of atonic paralysis, let the exciting cause be what it may, where there is no stertor, no stupor, or vertigo, no convulsion or other irregular nervous action, and the pulse, instead of being firm, is feeble and intermittent. For it should never be forgotten, that if many patients have recovered after bleeding, in suspicious circumstances, others have died after it, and probably in consequence of it, while great numbers have derived no benefit whatever. The advice of Dr. Cook upon this subject is therefore founded in the truest wisdom, and cannot be too extensively committed to memory: Each individual case must be viewed in all its circumstances, and by a careful consideration of them, our practice should be regulated. Before we prescribe blood-letting in hemiplegia we must investigate the age, strength, general constitution, and habits of the patient, and above all, the actual symptoms of the disease. In early, or even in somewhat advanced life, if plethora and the various symptoms tending to apoplexy be present, I should not scruple to bleed freely both generally and topically. On the contrary, in great age, debilitated, leucophlegmatic habit, dropsical tendency, &c. I should think it right to abstain altogether from this and from every other powerful mode of depletion, unless there be an evident determination to the head, marked by flushing in the countenance, throbbing of the arteries, redness of the eyes.

In purging, we may proceed with less restraint; for even in debilitated and dropsical habits, stimulating the bowels is almost uniformly found useful; should there be serous, or even sanguineous effusion, absorption is hereby powerfully promoted; and if there

be none, a beneficial revulsion will often be produced, and the stimulus will always be one of the most useful we can adopt. In a very debilitated state of the constitution, however, we should choose the warmer in preference to the colder purgatives; and hence jalap, colocynth, or even aloes in preference to neutral salts: and it will also be serviceable to combine them with some distilled water impregnated with an essential oil, as mint, penny-royal, juniper, or rosemary.

The next reducent remedy, worthy of notice, is emetics. If we have strong reason to apprehend a sanguineous effusion, this class of medicines ought not to be employed for a few days, and will hence always be doubtful in the first attack of entonic hemiplegia, as we have already observed they are in entonic apoplexy. But if we have no ground of such suspicion, they cannot be had recourse to too soon. In a certain sense they weaken, but they are at the the same time among the most powerful indirect tonics that can enter into our practice. They rouse the system generally, solicit the torpid fibres to a resumption of activity, stimulate all the excretories, and especially those of the surface of the body, and thus promote absorption in every quarter and in every way.

Having removed as far as we may be able all pressure upon the sensorium, and so far given an opportunity of healthful play to its function, our next business is to re-invigorate its general energy, and extend it to the parts which it has ceased in a greater or less degree to actuate.

Stimulants external, or internal, or both, have been almost uniformly had recourse to for this purpose; but I cannot avoid thinking that the practice has been too indiscriminate, and, in many cases, far too precipitate. We have observed that in many cases of hemiplegia there is not only great local inactivity, but great irregularity of action: a tumultuous hurry of sensorial power to some parts, with an equal withdrawment of it from others. In all such cases we should proceed gently and palliatively rather than rapidly and forcibly: and to do nothing is better than to do too much. We should endeavour to allay the nervous commotion, and restore the agitated system to order, by internal and external quiet of every kind. The patient should be kept as still as possible in a warm commodious bed, and a well ventilated room. His diet should be plain, with the allowance of a moderate quantity of wine, or wine and water. Camphor, musk, valerian, and other warm

sedatives, as ammonia, neutralized with citric acid, are here to be chiefly resorted to, if, indeed, we resort to medicines of any kind, and to these may be added the less stimulant metallic salts, and especially those of zinc and bismuth. The warm bath may be allowed two or three times a week, and if the nights be restless the inquietude may be subdued by hyoscyamus. But where the case seems altogether confirmed and chronic, and an entire side, or some other extensive part of the body, shows a fixed loss of sense, and voluntary motion, while every other part has resumed its healthy function, we may then, with safety, have recourse to the stimulant practice.

This will consist of external and internal irritants, and Dr. Cullen has given a long and useful table of both. Of the former the chief are, friction by the hand or a flesh-brush; stimulating liniments prepared of the concentrated acids, or the caustic alkalies inviscated in oil or lard, to render them less acrid and corrosive; brine, or a strong solution of sea-salt; the essential oils of turpentine, or other terebinthinate substances; and various vegetable acrids as mustard, garlic, and cantharides, or other blistering insects.

In the rank of external stimulants we are to arrange electricity and voltaism. In various experiments there can be no doubt that both have been found highly beneficial; but in various cases also both have been made use of in vain, and in a few instances, with apparent disadvantage. To run over the list of those who have chiefly espoused, and those who have chiefly opposed their employment, would be useless. It is of more importance to know that a very great number of physiologists and pathologists who employed them most extensively, and particularly in the form of electricity, for the fluids are most probably one and the same, and who were at first most sanguine of success, gradually lost their confidence as they proceeded, and confessed their general failure; and candidly owned that where for a time they promised fair and and seemed to be of use, the benefit was delusive and merely temporary.

Hot and cold bathing are the next external stimulants we are to notice as applicable to the disease before us. The stimulus of hot water alone is often serviceable in local palsy, and especially when produced by cold or damp, and in conjunction with the rubefacients and vesicatories we have just enumerated, or with friction to the part, effected by means of the hand or a flesh-brush, and particularly when aided by terebinthinate or other essential oils,

will usually succeed in restoring to the affected muscles their wonted power.

Cold bathing is also a stimulant as well as hot bathing, but a stimulant of a different kind, for it acts indirectly instead of directly. The intention with which it is used is that of forcibly urging the mouths of the cutaneous vessels into a general entastic or rigid spasm, in order hereby to excite a general re-action, as in the case of the first and second stages of an ague-fit, and thus to draw the torpid muscles into the common range of association. Dr. Cullen seems favourable to this practice under a prudent management. "Cold," says he, "applied to the body for any length of time, is always hurtful to paralytic persons, but if it be not very intense, nor the application long continued, and if at the same time the body be capable of a brisk re-action, such an application of cold is a powerful stimulant of the whole system, and has often been useful in curing palsy. But if the power of re-action in the body be weak, any application of cold may prove hurtful."

AMAUROSIS, OR GUTTA SERENA.

This is a disease of the eye attended with a dimness, or total loss of sight, and arising generally from a paralytic affection of the retina and optic nerve. The eyes appear natural and the pupil is dilated, and does not contract upon being exposed to the strongest light; it is sometimes attended with head-ach. This kind of blindness is generally preceded by an imaginary appearance of numerous insects or substances like pieces of cobwebs floating before the eyes.

Gutta serena has always been considered as not very susceptible of cure, especially when it arises from a defect of the optic nerve. In some instances an imperfect amaurosis depends on some irritation existing in the stomach and bowels, and sometimes connected with a general nervous debility, in which the eyes participate. In these cases the cure must be attempted, first by cathartics and emetics, to free the primæ viæ from all irritating matter, and afterwards by administering tonic medicines to strengthen the gastric organs, to promote digestion, and reanimate the nervous system in general, and the nerves of the eye in particular. Blisters to the temples and to the crown of the head, and electrici-

ty, are said to be of singular service ; sparks should be taken from the eyes, and moderate shocks sent through the head, and often repeated. Errhines are of considerable use ; one grain of turpeth mineral and eight of powdered liquorice root, well mixed, form a very proper sternutatory, one fourth of which should be snuffed up the nostrils once or twice in a day. A strong infusion of valerian root is to be freely employed, and a mercurial course is said to have succeeded ; galvanism is also recommended, as are likewise issues and setons.

CALIGO, OR CATARACT.

A *cataract* is an opacity of the crystalline lens or its capsule. When it arises without any assignable external cause, a cloudiness of vision or a settled mist is always perceptible by the patient before any opacity has become visible in the pupil. The cataract shews itself as a speck or spot in the pupil of the eye, occupying sometimes the whole, and sometimes only a part of this aperture. It is most commonly of a grey or whitish colour ; but sometimes of a deep white, and it may in all cases be easily distinguished from the naturally dark appearance of the pupil. In the commencement of the disorder it occasions a weakness or imperfection of sight, and it terminates sooner or later in total blindness.

For a description of the different species of cataract and the proper method of cure, the reader is referred to books on surgery.

Specks or *spots* on the eyes are frequently the consequence of inflammation. These may sometimes be removed by the application of a powder formed by mixing a small proportion of white vitriol with refined sugar ; this may be blown into the eye through a quill, or a simple solution of white vitriol, or a very mild one of corrosive sublimate, may be tried. When such means fail, the only remaining expedient is a surgical operation, which if judiciously performed, will sometimes succeed.

A *blood-shot* eye in consequence of external violence, or straining by vomiting or coughing, seldom requires any thing more than to be fomented with warm milk and water, or a solution of the acetite of lead.

The *watery* or *weeping eye*, proceeding from a relaxation of the glandular parts of that organ, requires some astringent application,

as a small proportion of brandy with water used cold, or the preparation of white vitriol with the whites of eggs, to be found in the Appendix; besides which, blisters and purgatives will be proper.

Fistula lachrymalis is a disease arising from an obstruction in the nasal duct, preventing the tears and mucus from descending into the nose. A tumour is thus produced in the inner corner of the eye, and the tears and mucus run off down the cheek. A cure of this troublesome complaint may be attempted by the frequent application of the extract of phytolacca decandra, and if unsuccessful, the only remedy is a surgical operation.

Strabismus, or *squinting*, may proceed either from a nervous affection, or a vicious habit acquired in children by having their eyes unequally exposed to the light, or by imitation from a squinting nurse or other example. When this defect has not been confirmed by long habit, it may be obviated by darkening the more perfect eye for some hours daily, by which means it will be gradually weakened, and the defective eye will be gradually corrected by using it, or the child may wear a mask which will only permit him to see in a straight direction.

That condition of the eyes called *myopia* or *short-sightedness*, may be in some measure remedied by the help of concave glasses, and in a contrary condition of the eyes convex glasses will be requisite and useful.

When the sight is considerably impaired and weakened by too constant application, especially night-watching and candle-light lucubrations, these causes should be immediately abandoned, and the use of green glasses will greatly assist in mitigating the complaint. When the great importance of the organs of vision and their very complicated and delicate structure are duly considered, it will appear obvious that too much care cannot be taken for their preservation. On the least appearance of diseased eyes, excess of every kind should be carefully avoided, as the use of strong liquors, or long abstinence from food, sudden transitions from darkness or obscure light into that of the bright light of sunshine, or the glare of candles. All irritating causes, as smoke, the vapours of stimulating or volatile substances, vivid lights and glaring colours, are to be considered as highly prejudicial to the organs of vision. Among the preventive means to be employed by those who are subject to disorders of the eyes, issues or setons on the arms, food

of easy digestion, and occasional laxatives, are to be regarded as of no inconsiderable importance.

PARACUSIS, OR DEAFNESS.

Deafness may proceed from various causes, as a radical defect in the organ of hearing which admits of no remedy. It may arise from too great dryness of the ear, from a deficiency in the secretion of wax, from hardened wax obstructing the passage of sound, inflammation of the membrana tympani, inflammation or obstruction of the Eustachian tubes, fevers, violent colds affecting the head, syphilis, and atony, or paralysis of the auditory nerves. According to Mr. Saunders, all the diseases of the internal ear may be denominated nervous deafness; the term in this sense embracing every disease the seat of which is in the nerves, or parts containing the nerves. The different species of deafness may in general be distinguished by their peculiar symptoms, and the mode of treatment should be varied accordingly. A deafness depending on hardened wax obstructing the auditory passage, may be effectually removed by syringing the ear with warm water and soap, or water saturated with common salt, which is found to be an excellent solvent of the wax; the ear may afterwards be cleansed by syringing it with warm water. This kind of deafness is attended with noises in the ear, particularly a clash or confused sound in mastication, and of heavy sounds like the ponderous strokes of a hammer, but the existence of wax may be ascertained by examination with a probe. If a thin acrid or fœtid discharge attends the deafness, blisters should be applied behind the ears, or a constant discharge kept up by issues, and an infusion of the root of indigo weed should be injected into the ear. When deafness proceeds from cold affecting the head, this part should be kept warm, especially by night. The feet likewise ought to be kept warm and frequently bathed in warm water, and purgatives occasionally taken. In that species of deafness occasioned by an obstruction of the Eustachian tube, the patient cannot feel the membrana tympani crackle as it were in his ear, or the membrane forced outward on blowing forcibly with his nose and mouth stopped, and there is no noise in the head like that which is known to accompany nervous deafness. To remedy this species of deafness, Mr.

A. Cooper has resorted to the mode of puncturing the membrana tympani, by which the air is conveyed into the cavity of the tympanum, answering the same purpose as the Eustachian tube. This operation in the hands of Mr. Cooper has proved successful, and others have adopted it with the same result. A nervous deafness generally approaches in a gradual manner; the person hears better at one time than at another; a cloudy day, a warm room, and agitation of the mind, increase for a time the difficulty of hearing; the patient experiences different noises in the head, as the murmuring of water, the hissing of a boiling kettle, roaring of the sea, rustling of leaves, the sound of bells, and blowing of wind. Sulphuric æther dropped into the ear in such cases, answers a valuable purpose in stimulating the torpid nerves; electricity, galvanism, and cold bathing, are also appropriate remedies; and Mr. Wilson asserts that galvanism is capable of effecting a cure when deafness depends on a defective energy of the auditory nerve. Errhines will often be found useful auxiliaries. When deafness is induced by atony or paralysis, the sulphuric æther, the juice of garlic and other stimulants, should be applied and retained in the ear by dossils of wool or cotton. When deafness is the effect of fever, the hearing is commonly restored with the strength of the patient. In all cases of this complaint, it is of importance to keep the head warm and the feet dry.

SYNCOPE.

This is a sudden swoon or fainting, in which the action of the heart is decreased, and sometimes a total suspension of the pulse and respiration takes place. It is generally preceded by anxiety about the præcordia, a sense of fulness ascending from the stomach towards the head, vertigo or confusion of ideas, dimness of sight, coldness of the extremities, and paleness of countenance. In some instances the case is rendered more urgent by being attended with vomiting, convulsions, or an epileptic fit. When syncope occurs at the commencement of acute diseases, it is generally considered unfavourable. This unpleasant affection may be produced by an excess or a deficiency of blood, a loaded or disordered stomach, violent pains, sudden emotions of the mind, profuse evacuations, particularly of blood, aneurisms of the heart, and other organic affections.

During the fit, the patient should be exposed to the open cool air, and the neck and face sprinkled with cold water and vinegar; volatile spirits or strong vinegar should be applied to the nostrils. The patient should be placed in a recumbent posture, and the extremities well rubbed with hot flannels; and soon as the power of swallowing returns, a glass of wine or brandy and water, or some volatile spirits, should be given. When persons are frequently affected with syncope, the peculiar cause should be ascertained, and the appropriate remedies applied.

ORDER II.

DYSPEPSIA, OR INDIGESTION.

Among the numerous diseases to which the stomach is liable, dyspepsia is one of the most obstinate and distressing. Though it seldom of itself proves fatal, it is frequently protracted to a length of time, in despite of every remedy that can be devised. The causes which give rise to this disease are various, such as indolence, intense study, grief and anxiety of mind, profuse evacuations, abuse of ardent spirits, and a too liberal use of strong tea or other relaxing liquors; immoderate use of tobacco or opium, wasting of the saliva, and exposure to cold and moist air. The more immediate causes are a deficiency in the quantity or quality of the gastric fluid; and atony, or debility of the muscular coat of the stomach.

This disease is generally attended with nausea, flatulent distention of the stomach, vomiting of viscid mucus, heart-burn, eructations either sour or rancid, and great costiveness; a sense of constriction and uneasiness in the throat, with pain in the side, paleness of countenance, languor, lowness of spirits, palpitation, and disturbed sleep. When with many of the above symptoms, there is an acute and constant pain in the region of the stomach, unattended with faintness or fever, often with a swelling of the stomach, it is termed *gastrodynia:* if a degree of faintness attend, *cardialgia*, or heart-burn. When the principal symptom is a sense of burning and distressing heat in the stomach, rising into the throat, and extending to different parts of the body, with a frequent and copious discharge of a watery or glairy insipid fluid from the mouth, it has the name of *pyrosis*, or water-brash.

Dyspepsia may be defined a partial or entire interruption in the first stage of digestion, the proximate cause of which is the diminished quantity or vitiated quality of the gastric juice.* When the assimilating powers of the digestive organs are greatly impaired, the stomach acquires such a state of irritability that the usual articles of food create the most intolerable distress, nausea and vomiting arise, the bowels become costive and flatulent, or gripes and diarrhœa ensue. From a peculiar sympathy with the stomach, there is sometimes great general distress, a sense of numbness in the extremities and scalp, acute pain in the side, vertigo, convulsions, and apoplexy. Nor is the patient's mind in every instance exempted from disturbance. The temper frequently becomes irritable, easily ruffled, peevish and dissatisfied, as in the hypochondriac affection. Dr. Thomas adverts to cases of dyspepsia attended with a scirrhosity of the pylorus, and also as connected with a morbid condition of the functions of the liver. Dr. Hosack remarks that a scirrhous state of the pylorus exists more frequently than is generally supposed, having been found in individuals of great feebleness of constitution, who have at all times been guarded in the choice of food, who have lived chiefly upon plain broths and milk, and have never been addicted to the use of spirituous and malt liquors. Respecting obstructions of the liver, as the cause of dyspepsia, such instances have frequently fallen under the observations of Dr. Hosack, in which, however, the hepatic affection had been entirely overlooked, an error which is too commonly committed by practitioners, and which has been productive of the most serious results.

To assist in the cure of dyspepsia, the patient ought in the first place to avoid every species of luxury and intemperance, indolence, and late hours; and should accustom himself to moderate exercise in a pure air, early rising, simple diet, cheerful company, and pleasing occupations.

It must be apparent that a radical cure cannot be effected without a rigid perseverance in a suitable course of diet and regimen. The patient should be restricted to a few simple articles that will require the least possible exercise of the digestive organs, while in

---

* This definition is given by Dr. J. Revere, of Baltimore, who, in the American Medical Recorder, Vol. IV. p. 50, has favoured the public with some excellent observations on the nature and treatment of dyspepsia, which are recommended to the attention of the reader,

a deranged and debilitated condition ; at the same time selecting such as abound in nutritive qualities and are most readily soluble in the gastric juice, and least liable to run through a chemical change in the stomach. The milk of cows is an article which, as I conceive, is the one to be most relied on to answer these views. Nor is this assertion to rest on the experience of a single individual only, but is supported by authority which will not be readily disregarded.* To obtain all the advantages of its valuable properties, however, milk is not only to be taken in small quantities several times in a day, but it must be considered as the principal article of the patient's diet. When it can be procured directly from the cow, it should be preferred in that state, and the patient may take a cup of milk as often as the stomach prompts a desire for food. Although it may disagree at first, a fair trial of its effects should always be made, varying its condition by boiling or taking off the cream. But if much acidity prevails in the stomach, a wine glass full of lime water, added to half a pint of milk, will prove a valuable corrective, and in case of vomiting, this composition will also be found one of the best remedies. Should a milk diet, however, on trial, occasion an oppression at the stomach, with head-ach and heaviness, and the patient should resolve to abandon its use, recourse must be had to a diet consisting chiefly of animal food, such as game, poultry, venison, the lean part of beef and mutton made tender by keeping, and fresh fish and oysters. Unleavened biscuit, rice, roasted potatoes, and light puddings of wheat flour, may be allowed in moderation, but all kinds of soft bread, cakes, and pastry, which have undergone a partial fermentation, should be avoided, as should every description of confectionary, nuts and crude fruits. Much depends on the mode of cooking even the most simple food. Meat, for dyspeptic patients, should be roasted or broiled with a quick fire, that the nutritive qualities may be preserved, and the natural juice should be the only gravy used. But all salted meat, pork and veal, ought to be rejected, and also broths and soups, as being more difficult of digestion than meat in substance. Butter, when become rancid, and all fatty substances, should be prohibited. It should be observed as important that the food be taken only at fixed periods,

* The learned Professor Chapman, of Philadelphia, in his practical lectures, as I am well informed, enjoins a strict conformity to a milk diet in all gastric affections.

allowing sufficient time for one meal to pass the process of digestion before the stomach is burdened with another. The patient should be at rest and use no exercise for an hour or more after eating. Coffee, with milk and sugar, make a proper and pleasant meal for morning and evening, but neither solid nor liquid food should ever be taken hot, as it will injure both the teeth and the muscular tone of the stomach. In regard to drink, all fermented liquors, as strong beer, &c. are pernicious: pure water, with or without a little brandy, old Madeira wine in small quantities, and old bottled cider, form the most suitable drinks for dyspeptic patients.

With the view of fulfilling the first and most important intention in the cure of dyspepsia, an emetic of ipecacuanha alone, or as some advise, with an equal quantity of sulphate of copper, should be administered and repeated when occasion requires. This relieves the stomach of offensive crudities, and prepares that organ for the reception of the proper nutriment. Besides, by the effort of vomiting the circulations are equalized, and cutaneous perspiration promoted. Costiveness, a constant attendant on dyspepsia, must be removed and obviated. If pills containing ipecacuanha one grain, rhubarb and calomel each two grains, be directed every day for a length of time, they will have the effect of a mild and efficacious aperient well adapted to this complaint, if the dose be not increased so much as to excite an unpleasant sensation of nausea; but their use may be regulated according to the effects produced. Should these pills however fail to remove constipation, and a more effectual carthartic medicine should be required, rhubarb in powder according to the experience of Dr. Good, is one of the best articles in the materia medica; this in doses of from 20 to 25 grains should be occasionally repeated, and if necessary let it be combined with aloes and soap, or two or three pills of the following formula may be occasionally taken with the best effects. R. Thoroughwort in powder, carbon soda, capsicum, and castile soap, equal parts, made into pills of common size with syrup. For the correction of flatulency in dyspepsia, magnesia is a remedy of peculiar value, and it may be taken to the extent of one ounce in a day. As a common carminative a strong infusion of the root of cow parsnip will be found beneficial. It often occurs in gastric affections that the patient is troubled with offensive eructations from the stomach resembling rotten eggs, indicating that the food is de-

tained in the stomach till it becomes putrid; here the mineral acids are found useful, but a far more sure and effectual remedy is powdered charcoal; if this be administered in doses of ten to twenty grains, three or four times daily, it will scarcely fail to afford essential relief. But in order to derive all the benefit which this medicine is capable of imparting, it must be prepared as directed in the Appendix. Tar water is another article strongly recommended for the peculiar acid which it contains, as being signally useful in this complaint; a wine glassful for a dose, three or four times daily, prepared as directed in the Appendix.

"That species of dyspepsia which has its origin in, or is ultimately connected with hepatic obstructions, requires a mode of treatment altogether different from that which proceeds from a deranged state of the digestive organs alone. With the view of unloading the diseased liver and opening the biliary ducts, a deobstruent course of the blue pill or calomel should be adopted and persisted in, accompanied with the usual auxiliaries appropriate to a morbid condition of the liver. To accomplish the intention of correcting the morbid acidity in the stomach, alkalies and absorbents are chiefly to be relied on. Of the former we may employ either sal soda, sal tartar, or sal aeratus, dissolved in a mucilage of gum arabic or tragacanth, and taken in such quantities as the stomach can bear, and the symptoms of acidity may demand. The volatile alkali may, however, be preferred; and this in the form of aqua ammonia may be given in a dose of a tea-spoonful two or three times a day. The absorbents and antacids, most useful in this disease, are calcined magnesia, chalk, and lime water, which may be alternated with the alkaline solution, with the best effects. The calcined magnesia should be preferred, and the lime water may be given to the extent of a pint in a day. When the patient is distressed with pain and flatulence in the stomach and intestines, with vomiting, the application of a large blister to the stomach becomes highly necessary, and the essence of peppermint, with the spirits of lavender, and a good proportion of laudanum, must be prescribed; the saline mixture in the act of effervesence will also be useful. But in these circumstances, opiates must be administered to the full extent required for the alleviation of the pain and other urgent symptoms. Or the hyoscyamus may be substituted, as being less apt to occasion costiveness. When by the employment of the foregoing remedies, the violence of the disorder is in

some degree mitigated, it becomes necessary to resort to medicines best calculated to restore the lost tone of the stomach in particular, and the system in general. Here the tonic powers of cinchona, with chalybeates and stomachic bitters, and the mineral acids, are indispensable, and these will effect all that can be expected from medicine. The compound tincture of cinchona prepared with brandy, and combined with a due proportion of some chalybeate, wine or tincture, is one of the most eligible preparations, and this may be accompanied with decoctions of columbo, cascarilla, quassia, thoroughwort, calamus aromaticus, and hops. Or the same indication may be fulfilled by the myrrh and steel mixture of Dr. Griffith.*

In many instances of complaints of the stomach, as cardialgia, gastrodynia, and pyrosis, the oxide of bismuth had been employed with satisfactory success after other remedies had failed. This medicine is to be exhibited in doses of from three to ten grains three times a day. Five grains may be considered as a medium dose, but it will be prudent to begin with three and increase gradually. It should be combined with about twenty or thirty grains of gum arabic, or tragacanth, to guard against its irritating the stomach. I have combined it with a tea-spoonful of arrow root, and have experienced the great utility of the medicine. The use of the tepid bath, of about ninety-eight degrees of heat, for half an hour every other day, for two or three months, has in many instances, as asserted by Dr. Thomas, (Modern Practice,) proved of great service to dyspeptic persons. And on some occasions the cold shower bath will tend to invigorate the system, and admirably coincide with the tonic remedies in the restoration to health.

There is a class of remedies yet to be mentioned, which in England have been found very efficacious in dyspeptic complaints; these are the various mineral waters with which that country so

---

* A powder composed of 20 grains of colomba, and 6 or 8 grains of phosphate of iron has been employed in gastric affections with advantage. The following is a valuable stomachic remedy.

R.	Infus. Gentian	lb j.
	Tinct. Rhei	℥ ij.
	Syr. aurant	℥ ij.
	Magnesia	℥ i. M.

Dose, a wine glass full four times in a day.

much abounds. These waters, being strongly impregnated with the properties of iron, impart their excellent tonic powers without exciting permanent heat, and thereby improve the general health and spirits, which are so intimately connected with the functions of the digestive organs. In our own country we have springs at Ballston and Stafford, which possess similar chalybeate properties; their medicinal powers have been demonstrated in a variety of instances, and are well deserving of further trial. The exercise and change of air, with the amusements and social company always to be found at such resorts, are admirably calculated to inspire hope and confidence, and to banish all gloom and despondency.

The artificial soda water is likewise capable of rendering the dyspeptic patient very essential benefit if copiously employed.

A sea voyage may with propriety be recommended to persons who are afflicted with dyspeptic or other similar complaints of the stomach.

It has been remarked that cold and wet feet are frequently the cause of complaints of the stomach and bowels; these therefore should be guarded against with the greatest care. It will be of great utility about half an hour before eating, and again soon after, to have recourse to brisk friction with a flesh brush or coarse cloth, over the region of the stomach and abdomen, and the same operation should be practised every night and morning over the whole body and extremities while in bed. The operation of friction remarkably contributes to the health of sedentary persons; it invigorates and excites the natural warmth, promotes insensible perspiration and cutaneous absorption, increases the action of the stomach, and consequently its power of digestion. In short, friction is so highly conducive to the recovery of the patient, that it cannot be too strongly inculcated. But no less important to the restoration of the dyspeptic patient, is exercise on horseback and change of place and amusing scenes, remembering that riding should be performed on an empty stomach, and the most proper hour is in the morning before breakfast.

ANAPHRODISIA, OR IMPOTENCY.

It is in consequence of general weakness that a debility of the genital system is induced, and that the venereal appetite and power

of procreation are suspended. Many are the causes assigned for complaints of this nature. Dr. Hosack enumerates as the principal, the abuse of mercury in the treatment of syphilis, and of some other disorders, the unsuccessful management of gonorrhœa, the pernicious practice of using lead injections, neglected gleets, excessive venery, and particularly onanism. In this condition of the physical system, Dr. H. remarks, the intellectual powers of the patient largely participate; and few cases have stronger claims on the attention of the practitioner, than those in which these circumstances, arising from these causes, are united. Too frequently, the representations and sufferings of the patient are regarded merely as the phantoms of the mind; and from an indifference both as to the real disease, and a want of confidence in the means that may be successfully employed, the most deplorable consequences ensue. The various methods by stimulants and restoratives hitherto put in practice, have in general failed to renovate the constitution, thus broken down, and to remedy the evil. But of late years, the employment of the lytta, in cases of seminal weakness and impotency, when arising from the causes above stated, has been attended with the happiest success. The introduction of this practice in the treatment of cases of this nature, in the United States, is due to Dr. Francis, of New-York. Most generally any uneasy or distressing symptoms, occasioned by the internal use of the lytta, disappear of themselves by ceasing for a while to take the medicine, and that too within twenty-four or thirty-six hours afterwards. But should it in any instance produce mischievous effects, they can be removed by the readiest and mildest means; an active antiphlogistic treatment, such as blood-letting, saline cathartics, a free use of diluents, as soda water, barley water, &c. and the warm bath, will answer the desired purpose. The claims of camphor in counteracting the action of the lytta, Dr. H. thinks, is not well founded, and his own experience does not enable him to recommend it. The lytta is not, as is generally supposed, local in its action, but produces a general excitement: it increases the sanguineous circulation, the flow of urine, and the discharges by perspiration: from its diffused action, the whole system becomes invigorated, and this altered state is manifested by an enlivened condition both of the mind and body. The morbid discharge from the urethra becomes altered, and assumes a thick and opaque aspect, and ultimately the wonted functions of the body are restor-

ed. In the administration of the lytta, the tincture seems to be the most agreeable, and in general the most manageable form. The extent of the dose depends materially on the peculiarity of the case. Robertson observes, " It seems an invariable rule, that the greater the existing debility either of the general habit, or of the generative organs, the greater quantity of the lytta is requisite to effect and keep up the irritation in the urinary passage; and in such cases, the cure is always more tedious. In those apparently stout, small doses, comparatively speaking, can be taken; while in those whose general health, or whose generative organs only, are most morbidly affected, can take the most; and as they approach to health, the doses requisite to keep up the irritation must be diminished, the system, and also the generative organs, being more susceptible of its action." Experience strengthens the preceding remarks of Mr. R. The dose of the preparation with which Dr. H. has generally commenced, is twenty or five-and-twenty drops three times a day, in a little wine, tinctura amara, or water. After the use of the article a few days, the dose is to be increased to thirty or forty drops, and as often repeated in the twenty-four hours. It has happened at times, that on the third or fourth day, and now and then even earlier, that the patient complains of some little uneasiness in passing water. This, if it does not increase, may be for a while disregarded. If the pain becomes severe, the remedy must be laid aside until the distress abates; after which it may again be prescribed to the same extent, if not greater, until similar effects are again induced: in this manner, the use of the lytta is to be continued. A practical precept must be here enforced, *perseverance in the use of the remedy.* The extent to which it may be carried would, unaided by experience, seem incredible. Cures have been effected within a few days; at other times, from peculiarity of condition, as many months or years have been required to accomplish the object in view. But such disconsolate cases as call for this prescription demand all the prescriber's skill; yet the great success which has followed this practice justifies the firmest perseverance equally on the part of the physician and the patient.

Dr. H. states a case which came under the care of Dr. Francis and himself in November, 1816. The lamentable condition to which the sufferer had been previously reduced by the bad management of a neglected syphilis, and afterwards still further by an

injudicious use of lead injections of an unwarrantable strength for nearly two years, led him, in a state of extreme mental anguish, to disregard the advice given him, and to seek the termination of his anxiety by self-destruction. With this view, he took nearly six ounces of the tinctnre of cantharides during the night ; yet no dangerous symptoms occurred. He admitted he felt a degree of warmth throughout his body, to which he had been a long time a stranger ; and that his mind was less depressed than before the commission of this act of folly ; he nevertheless went out as usual the next morning. He after this became persuaded that his situation was not altogether hopeless, and that his constitution, as he said, had still some stamina left to justify hopes of a recovery. He was now induced to take the tincture of lytta in the manner and quantity prescribed ; two drachms and a half three times a day, united with a dessert spoonful of the tinctura amara ; and generous diet was also recommended. Within about three weeks from this period he was renovated, and considered himself an altered man. His virile powers resumed their wonted energy ; nor has he in the slightest degree relapsed into his former state of weakness.

This is unquestionably a rare instance in which the lytta, rashly taken, and to an inordinate amount, was not followed by any serious injury.* It nevertheless proves that the accounts generally given of this article exciting deleterious effects in moderate doses, are not to be received but with the greatest caution. The lytta, like the common spirit of turpentine, the effect of which was once supposed to prove fatal even in small quantity, experience has now shown may be taken to an extent our predecessors could not have imagined. In obstinate gleets, after the ordinary vegetable and mineral tonics, the iron and gentian pills, the balsams and terebinthinates, have failed, Dr. H. has also given the tincture of lytta in the proportion of a drachm with a tea-spoonful or two of bitters, three times a day with permanent advantage. It should be remembered that the tincture does not generally produce immediate good effects, but in a majority of cases it is the result of a continuance of the remedy for a considerable time.

* The author has known three soldiers to swallow copious drams of tincture of lytta by mistake. Two of them suffered the severest symptoms of strangury for twenty-four hours, until relieved by the usual remedies ; one was tormented with painful erection, and the third escaped with trifling complaints.

Order III.—SPASMI.

TETANUS, OR LOCK-JAW.

This is a most formidable and frequently a mortal disease. It has been distinguished by practical writers into opisthotonos, when all the muscles of the neck and spine are affected with rigidity, and the body is drawn violently backwards, and emprosthotonos, when by similar spasms and rigidity, the head and body is drawn forwards. When the muscles of the lower jaw become rigidly contracted, so that the teeth are firmly closed together, it is termed trismus, or locked-jaw. This horrid disease is more frequent in warm climates than in cold ones, and is often occasioned by exposure to cold and moisture, when, under profuse perspiration, persons imprudently sleep in the open air, especially in a damp situation and after intoxication. But the most common cause of tetanus in colder climates, is the partial laceration, or even puncture of a nerve or tendon. Gun-shot wounds and various surgical operations, particularly amputation, are sometimes succeeded by this disease. It is truly remarkable that a very trifling injury or puncture by a nail, splinter of wood, or bits of glass, about the feet, hands, or fingers, will on some occasions produce tetanus when it is least expected, while at other times wounds of a more formidable nature will have no such effect. Some cases have been recorded where trismus was supposed to be owing to the presence of worms, or viscid mucus in the intestinal canal.

When this disease takes place in consequence of exposure to cold, the symptoms make their appearance suddenly. But when produced by a wound, puncture, or any other external injury, they gradually approach from the eighth, tenth, or fourteenth day; and it not unfrequently happens, that the original wound or puncture, has entirely healed before the attack, and the patient scarcely recollects its having occurred. A slight stiffness is at first perceived about the back part of the neck, with general lassitude, and the motion of the head becomes difficult and painful; as the rigidity of the neck becomes more considerable, a sense of uneasiness is felt about the root of the tongue, which by degrees produces a difficulty or inability of swallowing; there is a violent pain at the end of the sternum shooting into the back; when this pain arises,

the muscles, particularly of the back part of the neck, are immediately affected with spasm, pulling the head strongly backwards; at the same time the muscles of the lower jaw become rigidly contracted, so that the teeth are firmly closed together; as the disease advances the muscles of whole spine are affected, and the body is drawn backwards in such manner, that it is supported by the head and heels, the spine forming an arch. When the antagonist muscles of the whole body are so contracted that the patient can bend himself in no direction, but remains stiff in one position, the disease is called tetanus, which is however not so common a form as those above described. The abdominal muscles become violently affected with spasm, so that the belly is strongly retracted; the tongue is often partially attacked with spasm, and it is often thrust out violently between the teeth; at the height of the disease, every organ of voluntary motion suffers in a greater or less degree, the eyes are hollow, rigid, and immoveable, the countenance is hideously distorted, and expresses the greatest distress, the strength is exhausted, the pulse becomes irregular, respiration difficult, and universal convulsions supervene to terminate a most miserable state of existence.

The spasms are attended with violent pain, and generally continue for a minute or two, and return at intervals of ten or fifteen minutes; there is seldom any fever, but when the spasms are violent, the pulse is contracted, hurried and irregular; in the remissions, the pulse and respiration are natural; the heat of the body is commonly not increased, the face is generally pale, and covered with a cold sweat. It is remarkable, that neither the mental nor natural functions are considerably affected, there is seldom delirium, the appetite remains good, the urine is sometimes suppressed, or is voided with difficulty, and there is a costive state of the bowels.

When tetanic affections arise in consequence of lacerated wounds or punctures, or from amputation, or gun-shot wounds, they are almost sure to prove fatal; frequently death takes place in forty-eight hours, or four days, sometimes the patient lingers for ten days or a fortnight. In other instances, proceeding from exposure to cold, by a timely use of the proper remedies, permanent cures are frequently effected.

In those instances of tetanus arising in consequence of slight injuries, or punctures, by nails reaching a tendon, or nerve, we are

advised to dilate the wound, and to apply to the inner surface lint moistened with the oil of turpentine, with the view of inducing inflammation and suppuration. A splinter under the finger nail, says Dr. Rush, produces no convulsions, if pain, inflammation, or suppuration follow the accident. This measure should be adopted on all such occasions, either before or immediately on the appearance of any tetanic symptoms. When tetanus is evidently dependent on the particular state of a wound, or partial division of a nerve, practitioners in general agree that the wounded part should be completely removed; whenever such an operation is practicable, the nerves of the part at least ought to be immediately divided by the scalpel. In fact, some have gone the length of amputating a limb, particularly a finger or toe, for the purpose of cutting off all communication of the injured nerve with the brain; but experience has now fully evinced, that such an operation, after tetanus has commenced, is seldom successful. With the view of producing a speedy suppuration, it has been recommended to apply the lunar caustic freely to the wounded part, and afterwards cover it with the common bread and milk poultice.

With respect to internal remedies for the cure of this dreadful disease, opium has long been considered as the most prominent of all others, and it has been administered to the astonishing quantity of an ounce in twenty-four hours before the violence of the spasms could be subdued. This powerful remedy should be given at first in moderate doses, as two or three grains, repeated every two hours, or oftener, and boldly increased as the violence of the spasms and other symptoms may seem to demand, paying less regard to the real quantity given, than to the salutary effects produced. From the great difficulty of swallowing sufficient doses of opium, it often becomes necessary to administer it by way of clyster, and in this form it should be carried to very great extent. Opium may likewise be employed externally, by rubbing it thoroughly into the parts more particularly affected by spasm, either in the form of ointment or liquid, with the prospect of relief. By some we are advised to combine other antispasmodics, as æther, musk, and camphor, with opium, but experience does not prove that much advantage is to be expected from them. With the hope of producing a relaxation of the contracted muscles, the warm bath has been employed and recommended as promising essential benefit, but on numerous trials it has disappointed expectation, and sometimes it has even been

supposed to produce mischievous effects. Instances are adduced of patients dying the instant they were taken out of the warm bath. It is now asserted by the best authorities, that of all the remedies which have been employed in cases of tetanus, the cold bath has been attended with the greatest success. This is practised by plunging the patient into a bath of the coldest water, or placing him in a large tub, and pouring from a considerable height several pailfuls of cold water over his head and body; after which, he is to be carefully dried, rubbed with a cloth, and put to bed, and a dose of laudanum given him. This process must be repeated every three or four hours, until the intervals of freedom from the attacks of the spasms increase in length, which soon follows, and often ends in a perfect cure. Another remedy recommended for the cure of tetanus, is mercury, which if resorted to early in the disorder, and pushed to the extent of speedily affecting the mouth, has undoubtedly been attended with some success. The mercurial frictions have in general been preferred, and opium is directed to be given in moderate doses at the same time. Dr. Rush strongly recommends the employment of the bark and wine, as the most efficacious remedies he has employed; and Dr. Latta advises to the extent of two or three ounces of bark, with a bottle and a half of Port wine in twenty-four hours.

Dr. Hosack seeing the impropriety of employing a variety of tonic remedies at the same time, conceived the idea of relying on a liberal administration of wine alone. In one instance of lock-jaw, arising from a puncture of a pin in the wrist, he directed the patient to take a wine glass full of Madeira wine every hour. The violence of the symptoms soon abated, but on diminishing the quantity, the spasms recurred. These were again subdued by the wine, and a radical cure was effected, when the patient had taken three gallons in a few days. Three other cases have fallen under the care of other physicians, in which the salutary operation of wine has been observed in subduing this disease. The late Dr. Wistar having a case exhibiting the symptoms of lock-jaw succeeding to amputation, by the use of wine totally removed them.

We find on record a few cases of tetanus, or lock-jaw, cured by electricity, and the remedy merits further trials. Throughout the whole course of this affection, costiveness should be obviated by laxatives and clysters, and the patient's strength is to be as much as possible supported by wine and light food, and when he is una-

ble to swallow, nutritive clysters must be substituted. Where viscid mucus abounds in the alimentary canal, emetics and cathartics are indispensably necessary, and with the view of answering the indication in the speediest manner, it will be advisable to administer ten or fifteen grains of calomel, and six or eight of tartarized antimony combined, and this repeated in smaller doses until a thorough evacuation be effected. One instance has recently been reported of a cure having been performed, or the symptoms surprisingly mitigated, by half an ounce of the spirit of turpentine, exhibited in the form of enema, combined with eight ounces of the infusion of senna. This medicine is now known to be a powerful antispasmodic. (New-England Journal of Medicine and Surgery, Vol. 5, p. 280.) A decoction of tobacco is said in another instance to have produced very beneficial effects, when administered by way of injection into the rectum.

After a diligent research and examination of perhaps all the respectable authorities of modern times, it is difficult to determine which of the curative plans has the greatest claim to preference; and such is the rapid grogress of the disease, that little time is allowed for changing our prescriptions. It has recently been announced to me by my friend Dr. Nathaniel Miller, that he has succeeded in the treatment of three or four cases of tetanus arising in consequence of wounds, by the use of the arsenical solution of Dr. Fowler. His first trial was merely accidental, but the favourable result induced him to repeat his trials, and the efficacy of the remedy has far surpassed his expectations. He administers ten drops, combined with an equal quantity of laudanum, and a large spoonful of common spirits, every half hour. When relief is obtained, he diminishes the dose, and gradually discontinues the medicine.

NEURALGIA, OR TIC DOULOUREUX.

The character and description of this most singular disease were not to be found till of late years in medical records, and it is fortunate for the professors of the healing art, that they are not more frequently called to deplore the sufferings of individuals under a complaint so unyielding to the power of medicine.* The late Dr.

---

* Tic Douloureux was noticed as a distinct disease by Dr. D. Ludwig, in 1673; by John H. Degener, of Nimeguen, in 1724; by Andree, a French surgeon, in

Fothergill is said to have been the first who published an account of this disease, since which the subject has arrested the attention of several other authors. We are indebted to Dr. J. Jackson, of Boston, for a valuable communication with cases of neuralgia, published in the New-England Medical Journal, Vol. II. From this gentleman's accurate observations, aided by a case peculiarly interesting, which has recently occupied my attention, I shall endeavour briefly to describe the disease, and the mode recommended for relief.

Neuralgia of the face, the name given by Professor Chaussier, and adopted by Professor Jackson, as the most eligible, is an exquisitely painful affection of the nerves of the face; most commonly the seat of the disease is the nerves over the cheek bone, just below the orbit, following the course of the nerves to the nose, upper lip, teeth, and gums. Other parts of the head and face, as the ear, eye, lower jaw, and occiput, have likewise been known to suffer from this affection. The pain occurs most frequently by sudden paroxysms, and in quick succession, more rapidly repeated, however, in some instances than in others, and the pain is excruciating beyond expression. The continuance of the pain seldom exceeds a minute, and the intervals of ease are from two, to eight or ten; this, however, seems to depend on the greater or less degree of irritability of the nerves, or the occurrence of some exciting cause, even of the most trivial nature. Thus, the action of the muscles of the face, in coughing, chewing, speaking, laughing, and swallowing, as also a sudden emotion of the mind, or the slightest stroke, or motion of the bed-clothes, will produce a return of the paroxysm. The pain often remits as suddenly as it comes on, leaving no other sensation than a dread and horror of its return, or a slight tenderness and soreness of the part affected. The accession of the paroxysm sometimes resembles a spasmodic affection, with an evident vibration of the nerves, and in other instances, they are like the sudden, but severest dartings and twinges of tooth-ach, though incomparably more violent. Ascribing the whole affection to carious teeth, some persons have been induced to have several of them extracted, with the hope of obtaining relief, but good effects have rarely been experienced from the operation. Some patients, after being afflicted with this tormenting

1756; and by Dr. John Fothergill, in 1776.—*Med. and Philos. Reg. Vol. IV. p.* 298.

complaint, by night and by day, for several weeks, or months, are at length happily favoured with a respite during a period of several months, or years, when they are again visited with all the distressing circumstances as before.

The tic douloureux may be distinguished from rheumatism, hemicrania, and tooth-ach, by a paroxysm being excited by the slightest touch, by the shortness of its duration, and extreme violence of the pain, seldom attended with redness, or swelling of the affected part, and by the pain accurately following the ramifications of the affected nerves, and sometimes with convulsive twitchings, and an entire freedom from pain during the intervals.

With respect to the mode of treatment best adapted for the cure of neuralgia, that of Dr. Jackson, detailed in the production above referred to, is undoubtedly well worthy of adoption. His experience and judicious observations, may with much propriety be made the rule of our practice. The first remedy to be noticed is hemlock, (conium maculatum,) which was often successfully employed by Dr. Fothergill, but in other hands it has since failed to afford relief. This is probably to be attributed to the inferior quality of the preparation employed, or the want of precise rules in its administration. The fact seems to be confirmed by experience, that unless cicuta be given so as to produce a sensible effect on the system, it seldom exerts its influence over the local affection, but in being attained, a subsidence of the pain is the immediate consequence. From the active properties of cicuta, and the incertitude of its operation, it will in no case be prudent to give a full dose on the first trial. The general practice is, to begin with a small dose, and increase gradually to the extent which the particular constitution can bear, or circumstances require. If, therefore, in neuralgia, we prudently begin with a single grain of the inspissated juice, or extract, we may with safety increase it to five grains for the second or third dose, and add five grains to every future dose progressively, till its effects on the system are evinced by the occurrence of slight dizziness, nausea, or some other sensation. And as it has been ascertained by Dr. J. that the effect of the medicine becomes evident within two hours, and often within fifteen or twenty minutes after being received into the stomach, the doses may be repeated every second hour, or at longer or shorter intervals, according to the urgency of the case, carefully attending to its effects.

In one of Dr. J.'s patients, three hundred grains were taken in six hours, by which dizziness and faintings, with an inability to set up, were induced, but a very essential respite from pain was the happy result. Encouraged by this bold example, even the quantity above mentioned has been exceeded in another instance which will presently be related. When the extract of hemlock appears of doubtful quality, the tincture of the same plant, prepared with proof spirit, in the same proportions as the tincture of digitalis, may be substituted. This proved successful in one of the cases detailed, beginning with thirty drops, and increasing in the same manner as the extract. The aqua ammonia having been successfully employed by Dr. F., was also in the hands of Dr. J. the means of effecting a cure in one instance, when given from one to three teaspoonfuls three times in a day.

Preparations of zinc, silver, mercury, and arsenic, have been mentioned as remedies in this disease, but they are not supposed to be entitled to confidence; though a salivation is said to have succeeded.

From the well known narcotic and sedative powers of stramonium, it may be recommended as among those considered worthy of trial.

Stimulating embrocations, blisters, electricity, and frictions with mercurial ointment, and opium in liberal doses, are the remedies to be resorted to with the view of obtaining palliative relief in this most distressing complaint.

"In certain cases, the sensibility of the diseased nerves has been destroyed by dividing the trunk of the particular nerve, from which the diseased branches proceed." This mode of treatment is certainly to be advised in cases where the disease resists internal remedies. "It is not infallible, for in some instances, the nerve uniting, the pain has returned in a short time, or in others after a number of years."

This operation, and the expediency of resorting to it, must be entrusted to the judgment of a skilful anatomist and surgeon.

The truly afflicting instance of tic douloureux, which I have recently witnessed, was in a respectable lady in the ninth month of pregnancy; the anguish of whose sufferings I attempt not to describe. She had experienced occasional attacks for several years in a moderate degree, and one or two teeth had been extracted without any benefit resulting. During the few first days of

this last attack, the internal and external use of the tincture of opium, and anodyne balsam, seldom failed to afford relief from pain, and render her condition tolerable; but when these could no longer control the violence, and diminish the frequency of the paroxysms, recourse was had to the extract of hemlock. This, during the first three days, was exhibited in moderate doses, but on the fourth day it was increased from ten to eighty grains an hour, amounting in seven hours to four hundred grains; two hundred of which were taken during the last two hours and a half. The effect produced on the system, was only a slight dizziness for a short time, but the violence and frequency of the paroxysms were in a considerable degree suspended during twenty-four hours, when they returned with their usual severity. A further perseverance in the use of this medicine, under existing circumstances, could scarcely be deemed warrantable. The aqua ammonia was afterwards tried in a few doses without effect, but some relief was obtained by the application of a blister and the tincture of cantharides to the parts affected, assisted by large doses of laudanum.

The sufferings of this patient were greatly aggravated by a severe catarrhal affection, and a distressing cough, with symptoms indicating a vitiated state of the stomach; for the removal of which an emetic was administered, and from this she derived more permanent benefit than from all the medicines previously exhibited. She experienced an immediate abatement of all her distressing complaints, and the paroxysms were almost entirely suspended, recurring only in a slight degree when excited by coughing. The circumstances attending parturition were encountered without difficulty, but during the period of nursing, she became debilitated, and was occasionally affected with neuralgia; by the use of cinchona and chalybeates, the tone of her system was restored, and with it her general health.

The following case is sufficiently interesting and important to be inserted in this place. A particular detail is found in a letter from the patient himself, Samuel Chipman, Esq. to Dr. Low, of Albany, and published in the Albany Gazette. A brief abstract only must suffice. The patient describes the paroxysms of pain as being so extremely acute as to resemble that produced by thrusting into the part the point of a sharp knife, and at length increased to such severity that he could conceive of nothing except the inquisitorial rack more *completely horrid.* He continued for many

weeks in this dreadful situation, employing external applications only, as the physicians were unacquainted with the real nature of his complaint. Finding at length his health and strength failing fast, and the disease constantly gaining ground, he resorted to other physicians who fortunately had met with the publication of Dr. James Jackson, of Boston, on the subject of tic douloureux, and recommending cicuta as a remedy. Resolving to make a full trial of the cicuta, he took the first night twenty-six grains of the extract, which produced but little effect, increasing however to one hundred and seventy-five the next night, and to one hundred and eighty the following night. He was so intoxicated that he could with difficulty walk without assistance, and the paroxysms were considerably diminished. The cicuta being exhausted and the pain becoming again intolerable, he took five grains of opium, and in two hours after, seventeen grains more, which eased the pain, but neither intoxicated nor occasioned sleepiness. Having procured a new supply of cicuta, he commenced with a dose of four pills of five grains each, and in two hours and ten minutes took one hundred and twenty grains, by which a perfect cure was effected. This gentleman describes as follows the effects which he experienced from the cicuta. "It fixed me to my chair and rendered me almost entirely motionless, unable even to raise my hand to my head. It was only with considerable exertion that I could open my eyes, and could but indistinctly distinguish objects across the room. Its effect on my sight was to *multiply* every object at which I looked. The difficulty I experienced in opening my eyes was not occasioned by *drowsiness*. I had my reason perfectly, and could converse. In another instance it might affect the organs of speech, as well as the other parts of the system. In about two hours I could bear my weight, and with the assistance of a person to enable me to keep my balance, could walk, but with great difficulty. This was about five weeks, and the debility which for near a fortnight was so great as to produce the 'fever and ague march' to perfection, still continues, though very slight. My health is now good, and I am able to attend to business. I have no doubt a permanent cure is effected." He further observes, that the intoxication produced by cicuta, is very different from that by spirituous liquors or opium; having neither that depression nor exhilaration caused by them. "It affects the limbs, but not the head. Indeed, there is no unpleasant feeling while under the ope-

ration of it, if you sit perfectly still; but if you attempt to move, there is a disagreeable *pricking* sensation, like that in a limb after it has been what is called *asleep*."

The fact is here to be remarked, that similar affections of the nerves may also take place in other situations besides the face. Examples are recorded in books on surgery, of painful affections of the fingers, extending up the arm, which in all particulars correctly resembled the tic douloureux of the nerves of the face.

Since writing the foregoing, a case of tic douloureux has been promulgated in the New-England Medical Journal, Vol. IV. page 91, in which the nerve had been divided without success, and where large doses of opium had failed. Recourse was then had to the extract atropa belladonna; one grain of which was first tried in a pill. This occasioned vertigo and great lassitude, with a peculiar and distressing dryness of the tongue and fauces; but the pain was removed. It returned the next day, and was again kept in check by smaller doses of the same medicine. A quarter of a grain of the extract was given three times a day, and increased to a third of a grain; then a quarter of a grain morning and noon, and half a grain at night, sometimes omitting the medicine altogether for a day. The pain, whenever it returned, was as certainly removed by the medicine. In the course of three weeks, the disposition to the disease gradually subsided, and the remedy was consequently discontinued.

In the same volume, page 235, another case is related in which cicuta had failed, and which was cured by the use of alcohol ammoniatum; commencing with thirty-five drops three times a day, and increasing one drop a dose. The remedy was continued till nearly a drachm was taken three times daily, when the disease gradually disappeared.

The lady whose case has been mentioned in the preceding pages, in the first edition of this volume, has for more than twelve years laboured under this distressing affection, and her sufferings have been almost insupportable. She has enjoyed respites of several months, but when affected with a cold and in a state of debility, the disease recurs with its usual distressing violence, and continues in defiance of every remedy that has been employed. The complaint evidently proceeds from an impaired state of the digestive organs, and those remedies which tend to restore the disordered state of the stomach have proved the most effectual pallia-

tives. About eight years since, she submitted to the operation of dividing the diseased nerve by Dr. J. C. Warren, which afforded a respite of a few months only. The celebrated Mr. Abernethy is decided in the opinion that neuralgia has its origin in a disordered state of the digestive organs, and observes in one of his lectures on nervous diseases, that a proper attention to regimen and diet will in general prove a remedy, and obviate a tendency to this deplorable affection. As to the surgical operation of dividing the nerves of the part affected, it might just as well, he says, be attempted to cure the gout by cutting the nerve of the toes. A man in this vicinity has undergone the operation of dividing the several branches of the five pair of nerves by Drs. Warren and Miller five different times, and is still afflicted with neuralgic affection. Mr. Abernethy has related a case which was seated in the nerves of the ring finger of the left hand.* Mr. Home† has related an instance of this affection in consequence of an injury of the thumb. Instances are recorded of its having attacked the breast, sides, and calf of the leg. In the Edinburgh medical and surgical journal a case is noticed by Dr. Verpinet, as occurring in one of the nerves of the fore arm, the consequence of a wound from a knife. In the case of Mr. C. Apthorpe, of New-York, as related by Dr. Hosack, "the disease was seated in the lower, as well as the upper jaw, and occasionally embraced all the three branches of the fifth pair of nerves. Previously to this affection of the face and head, Mr. Apthorpe had suffered many years from regular gout. In this case the neuralgic affection was probably induced by the same cause, as the gout was totally suspended upon the appearances of the latter disease. Mr. Apthorpe had then passed the sixteenth year of his age. In three other cases the disease occurred in females between thirty and forty years of age; in all three the nervous temperament was strongly marked, and predisposed them to the complaint; in one the ophthalmic branch of the fifth pair of nerves was exclusively the seat of the disease, each paroxysm being attended with violent action of the muscles of the eye, a compression of that organ, and a copious discharge of tears. This lady for several years previous to this affection, had suffered repeated attacks of acute rheumatism, which never recurred after the appearance of her new complaint. In the second, the nerves extend-

* Surgical Observations, vol. 1.

† Philosophical Transactions for 1801.

ing over the side of the head as in hemicrania, were the seat of the disease. In the third, it commenced in the fifth pair, but soon involved the whole nervous system, producing convulsions, to subdue which, required the most liberal use of opium and æther. In all of these cases the patient sufferered repeated returns of the disease, especially in the fall, winter, and spring; but by the use of tonic medicines, exercise, the cold bath and attention to diet, and mode of life, at the same time avoiding exposure to the changes of the weather, they have for some years past escaped the usual visitations of this distressing malady. Another lady far advanced in life, in consequence of an injury of the extremity of the fore-finger of the right hand, has endured for several years the most severe paroxysms of this complaint, not only affecting the branch of the injured nerve bnt those distributed upon the fore arm, and occasionally extending to those of the neck. In August 1813, I was called upon to visit Mrs. S. aged about 52, she was confined to her room by an attack of neuralgia seated in the fourth toe of the left foot. She was first affected with this disease about three years before; but knows no cause to which she can ascribe it. She has made use of bloodletting, opium, warm bathing, and fomentations, without effect; and upon one occasion the pain was so acute that she plunged the part affected in boiling water, but without relief. I directed the toe to be involved in a blister, which was continued to the part twenty-four hours, but this, like the other means that had been resorted to, was of no avail. As there is a manifest resemblance between the severe pain frequently suffered in acute rheumatism and that of neuralgia, it occurred that benefit might be obtained by the use of the volatile tincture of guaiac.; a tea-spoonful of this medicine was accordingly directed to be taken every two hours, in half a glass of wine. After taking a few doses, the patient experienced more relief than from any other medicine she had taken. Since that time whenever she has the least irritation in the affected part, she has immediate recourse to the tincture, and uniformly with relief."

We find on record many radical cures of neuralgia effected by the use of the carbonate of iron, in doses of half a drachm, or two scruples three times in the twenty-four hours, and it appears probable that more cures have been performed, or cases relieved, by this medicine than any other remedy. Some cases of obstinate neuralgia have yielded to a perseverance in the evacuating plan, cleansing

the stomach and bowels of morbid contents by proper doses of calomel and tarterized antimony. Carbonate of soda has in some instances afforded very considerable relief. The belladonna has been administered internally with complete success, and in the London Medical and Physical Journal, one case is reported of neuralgia being cured by the external application of belladonna. Ten grains of the extract moistened with a little water were rubbed over the pained part for about three minutes during a violent paroxysm. The result was an instantaneous abatement of the pain; it returned, however, in half an hour, but by occasional repetition of the remedy the disease yielded to its power.

"Paralyzing the nerves by the application of ceruse (white oxide of lead) succeeded in a case under the care of Sir Astley Cooper, that had resisted every other remedy, and even the knife. Two scruples of this, formed into ointment, were rubbed in the morning on the affected cheek, about an hour before the paroxysm was expected. The application was continued for a month or more, and the patient (who was a man) left the hospital apparently perfectly cured. The effect of the lead is reported to have been rapid and striking, the person being rendered comparatively comfortable in a short time from a state of excruciating torment. No particular effect was produced by the ceruse on the stomach or bowels." (Thomas's Modern Practice.)

The sulphate of quinine is much employed in France, and it is said with satisfactory success, in doses of from sixteen grains to a scruple in twenty-four hours. But much of the success in the cure and prevention of neuralgia, depends upon proper attention to the condition of the digestive powers.

CONVULSIO.

Convulsions attack persons of all ages, but chiefly the young and the debilitated; all constitutions, but principally the fair, the delicate, and the irritable, each sex, but particularly females. Its causes are various, but their chief source is irritation.

Convulsions may be occasioned by an oppression on the brain, by wounds, blows, or frights, by poisons received into the stomach, or any oppressive load on the digestive organs. In children, worms and the irritation of teething, often cause convulsions.

Sometimes convulsions attack suddenly, without any warning; at others their approach is indicated by certain symptoms, such as coldness of the feet or a sense of creeping, rising like a blast of cold air from a particular part of the extremities to the head, attended with dizziness, and a flatulent uneasiness in the bowels. "The struggle itself varies equally in its extent and violence, and I may add, in its duration, The muscles are alternately rigid and relaxed, the teeth gnash and often bite the tongue, the mouth foams, the eyelids open and shut in perpetual motion, or are stretched upon a full stare, while the protuberant balls roll rapidly in every direction; the whole face is hideously distorted. The force exerted is enormous, so as frequently to shake the entire room, and overpower the strength of six or eight attendants. In some instances, it has been so violent as to break a tooth, and even fracture a bone. When the lungs are much oppressed in the course of the contest, the lips, cheeks, and indeed the entire surface, is dyed with a dark or purple hue.

The paroxysm will sometimes cease in a few minutes, but occasionally lasts for hours, and, after a short and uncertain period of rest, returns again with as much violence as before; a fact peculiarly common to puerperal and infantile convulsions. Great languor commonly succeeds; sometimes head-ach, vertigo, and vomiting, occasionally delirium; but not unfrequently, and especially in infants, there are no secondary symptoms whatever.

The treatment of convulsion must apply to the paroxysm itself, and to the state of the constitution which gives a tendency to its recurrence.

As there is danger from congestion in the brain, venesection is, in most cases, a good measure of caution, and, in many instances, is absolutely necessary; and hence, where plethora has preceded, and has threatened to become a cause, the disease has often been prevented, and sometimes effectually cured, by a spontaneous hemorrhage from the nose, the ears, or some other organ. But we have often had occasion to observe that, in weak and relaxed habits, bleeding, if frequently repeated, increases the tendency to plethora; and, on this account, how necessary soever at the time, it should be employed with caution, and persevered in with reluctance.

Brisk cathartics, introduced into the stomach, if possible, and where this cannot be accomplished, in the form of an injection, low-

er the morbid distention almost as effectually, and in some instances directly remove from the system the principal forms of the complaint. Emetics are of more doubtful effect: they also may occasionally carry off the actual cause of irritation, and by powerfully determining to the surface, make a favourable diversion of action. But in many cases of debility they have evidently increased the violence, and prolonged the duration of the fit.

Antispasmodics are certainly entitled to our attention, and often succeed in allaying the irregular commotion. Those most commonly resorted to are ammonia, æther, musk, camphor, and valerian. The empyreumatic oils, both animal and vegetable, seem to have fallen as much below their proper value in the present day, as they were once prized above it." Cold bathing will be found a useful tonic in the intervals of the attacks, and this should be accompanied with the metallic salts and oxides, as those of iron, copper, arsenic, silver and zinc. The flowers of zinc is usually given to an adult in doses of three or four grains, three times in twenty-four hours; or if silver is preferred, one grain of its nitrate in the form of pill is given, and increased to eight or ten grains if necessary, and this has often been successfully exhibited. The virtues of these medicines are said to be much improved by a combination with camphor. "In spasmodic or convulsive affections," says Dr. Cullen, "it has been of service, and even in epilepsy it has been useful. I have not indeed known an epilepsy entirely cured by camphor alone; but I have several instances of a paroxysm which was expected in the course of the night, prevented by a dose of camphor exhibited at bed time, and even this when the camphor was given alone; but it has especially been useful when given with a dose of cuprum ammoniacum, or of white vitriol, or of the flowers of zinc."

CHOREA, OR ST. VITUS'S DANCE.

This is a species of convulsions most generally confined to one side, and affecting principally the arm and leg. It is chiefly incident to young persons, of both sexes, but particularly those of a weak constitution, making its attacks between the age of ten and fifteen, occurring but seldom after that of puberty. This complaint may arise from a relaxation of particular muscles, or from various

irritations, as teething, worms, acrid matter in the bowels, or from violent affections of the mind, as horror, fear, and anger; and it has been known to proceed from sympathy at seeing the disease in others. The convulsive motions which attend chorea are sometimes preceded with yawning, stretching, anxiety about the heart, palpitations, nausea, difficulty of swallowing, giddiness and pains in the head, &c. To these succeed a kind of lameness or instability of one of the legs and arms, commonly of the same side of the body, which are agitated by convulsive motions, and in walking the leg is dragged along in an awkward and ridiculous manner, the arm is so affected that it cannot be held still for a moment, and in every attempt to drink, the patient uses various singular gesticulations, and at length pours the liqour down his throat with great haste, as if he meant to afford amusement to the bystanders. In some instances the head and trunk are likewise affected in a singular manner, and there are frequent fits of leaping and running, often accompanied with confusion of mind, weeping and laughing, as in hysteria. The countenance is pale, the eyes become dull and lose their lustre; deglutition is performed with difficulty, and there is sometimes an impediment of speech, with impaired appetite and digestion. This disease, however, is seldom attended with fatal consequences.

When chorea is merely the effect of debility, unconnected with any irritating cause in the first passages, evacuants are not to be employed, bnt the cure is to be attempted by tonic and strengthening remedies, the principal of which are cinchona in large doses, with chalybeates and cold bathing, together with the usual antispasmodics, as advised in epilepsy. It has in a few instances been successfully treated by administering one or two grains of the acetite of lead thrice in a day. Electricity, the warm bath, and a perpetual blister to the os sacrum, have also been recommended as useful.

But chorea undoubtedly sometimes, if not generally, arises from local irritation, and is not dependent on debility. Dr. Armstrong ascribes it to irritation of the mucous membrane of the stomach or small intestines, together with a disordered condition of the skin, and a consequent torpid or irregular state of the liver and colon. In the progress of the complaint, the spinal cord and brain become distended so as to affect the motion, and at last the intellect. He relates a curious instance in which the usual remedies failed, but

in which music had the effect of procuring sleep daily, and at last of removing the disorder altogether. He cautions against the use of the lancet, and thinks it of great consequence in this and many other nervous affections, not to direct the attention of the patient's mind to the complaint, for it is thereby apt to be greatly increased, as any one may easily perceive, when they make many inquiries in succession as to the motions. All conversation tending to agitate the mind of the patient should be strictly prohibited. In regard to the curative plan, Dr. Armstrong coincides with Dr. Hamilton in his purgative course, as the most effectual means of cure, and in the hands of Dr. Parr, also, active purgatives have been attended with the most remarkable success, having administered to more than sixty patients, three times, Dr. Hamilton's boasted number, and one of these only baffled his remedial course. The purgative sytem, therefore, seems to be well established in the present practice, and in all cases, but especially those which have resisted the common remedies, regular doses of jalap and calomel should be exhibited from day to day; or this may be alternated with a preparation consisting of equal parts of castor oil and the oil of turpentine. This last article alone has in some instances proved highly useful. Among the tonics to be given, after the purgative course, the carbonate of iron, in doses of ten grains, combined with two or three of ginger, night and morning, will probably be found the best; and of the antispasmodics, the tincture of castor, two drachms three times a day, or a strong infusion of the root of skunk cabbage freely taken, will answer the views of the prescriber. But it must not be omitted to mention, that excepting the active purgatives, no medicine has proved more efficacious in chorea than Fowler's arsenical solution; when given in doses of five drops three times a day, the most obstinate cases have yielded to its powers. During the cure of chorea, and during convalescence, the patient should be restricted to a diet, mild, nutritive, and easy of digestion.

EPILEPSIA, OR FALLING SICKNESS.

This is a sudden privation of sense, accompanied with unusual motions, generally with violent convulsions of all the voluntary muscles, and a frothing at the mouth, followed by great drowsi-

ness. The fit recurs at various uncertain intervals, and often attacks during sleep. This disease is more frequent among children than adults, and males seem more subject to its attack than females. It is very uncertain in its termination; if it commences during infancy or childhood, it may take a favourable turn at the age of puberty, but when it seizes adult persons, and is hereditary, there are but little hopes of a cure.

This disease may proceed from wounds, blows, and other external injuries, strong passions, or affections of the mind, sudden and severe frights, intense application to study, frequent intoxication, venereal excesses, suppression of customary evacuations, too great emptiness or repletion, tumours or concretions within the skull, worms, teething, and it is sometimes hereditary.

The attack of epilepsy is in some instances preceded by a pain in the head, dimness of sight, noise in the ears, disturbed sleep, palpitations, flatulency, weariness, and in some instances there is a singular sensation like a cold vapour, ascending from the lower extremities towards the head, which is called *aura epileptica*. More frequently, however, the patient is seized suddenly, and falls to the ground without much previous notice, quite destitute of sense and reason, and general convulsions immediately follow; the muscles of the face aud limbs are violently agitated and convulsed, the fingers are closely clinched, and the thumbs drawn to the palms of the hands; the eyes are distorted, he foams at the mouth, and grinds his teeth with violence, and sometimes bites his tongue, and the urine and fæces are discharged involuntarily. The pulse at the commencement of the paroxysm is quick, small, and scarcely perceptible; towards the termination of it, it becomes more full and slow, at length the convulsions cease, and the pulse and respiration return to their natural state, the patient falls into an apparent profound sleep, from which he gradually recovers his senses and power of voluntary motion, unconscious of any thing that passed during the paroxysm.

Immediately on the patient being seized with a fit, great care should be taken to prevent his injuring himself, by the strong convulsions, which often require four or five men to resist; a piece of wood should be placed between his teeth, to guard against their being closed upon the tongue. The patient shonld be put into a bed, with his head raised; and to have any pressure occasioned by clothing, or ligatures about his neck, instantly removed; volatile

spirits should be applied to stimulate the nostrils, and clysters, composed of antispasmodics, as opium, or skunk cabbage, should be administered, and the anodyne balsam should be well rubbed along the spine. If it should appear that the patient has been indulging too freely in spirituous liquors, or has loaded his stomach with some indigestible and offensive substance, a strong emetic must as soon as possible be forced down, and the operation promoted until the stomach is cleared of its injurious contents, when the convulsions will entirely subside. Cathartics may be given and persisted in.

The method to be pursued in the intervals of paroxysms, with the view of a radical cure in epilepsy, must be varied according to the cause by which it is produced. If the disease is sympathetic, and arises from worms or from teething, it should be treated as already advised in those complaints respectively. In every instance, the particular cause, if it can be ascertained, should be remedied or obviated, as far as practicable. When the patient is of a plethoric habit, venesection will be proper in the paroxysm, to such extent as circumstances may require and justify, repeating the operation *pro re nata.* Blisters between the shoulders, and on the extremities, and mustard, and other stimulating poultices to the feet, will produce beneficial effects. When the approach of a paroxysm is indicated by the epileptic aura, it may sometimes be prevented by a tight ligature applied to the limb above where the sensation of coldness begins. In many instances of epilepsy, which recur periodically, and which appear to depend on a debility, or irritability of the nervous system, the Peruvian bark, combined with chalybeates, will be found particularly efficacious, and when aided by the well known strengthening powers of a cold bath, a radical cure may often be expected. Among the various antispasmodic medicines which have been celebrated by different authors for the cure of this disease, are musk, opium, and valerian ; the metallic tonics most extolled, are, the flowers of zinc, from half a grain to eight grains ; ammoniacal copper, quarter of a grain to five grains ; and the nitrated silver, one eighth of a grain to half a grain, twice in a day. With respect to their peculiar efficacy, it may be observed that each one has been known to afford flattering prospects, and again to disappoint expectation, and their success in any particular case can be known only by a fair and patient trial. The nitrated silver, from its successful employment, has, I am warranted to say,

the strongest claim to preference. Arsenic and fox-glove, have some repute as remedies in the present disease; and Dr. Rush has cured a boy by giving him two grains of sugar of lead, three times a day.—Opium is said to be the most effectual antispasmodic; it should be administered in such doses as the patient can bear, a short time before the expected paroxysm, and repeated at proper intervals, increasing the dose in a gradual manner, in proportion to the violence or frequent recurrence of the fits. In those cases where the fits recur during sleep, a full dose of opium should be given at bed time. But the skunk cabbage root, is probably equally efficacious as an antispasmodic, and is not apt like opium to induce costiveness; let this have a fair trial, in doses of half a drachm, twice or thrice in a day, and if it fail, it will produce no injurious effect. The application of a tobacco poultice to the pit of the stomach, if repeated for several days, just before the return of the paroxysm, has destroyed the diseased catenation and effected a permanent cure.

There are two of our domestic productions which have been found to possess considerable efficacy in the cure of epilepsy. The common cow-parsnip was brought into notice by the late Dr. Joseph Orne, of Salem, who adduced five cases of its trial, in three of which complete cures were effected. In the three successful cases, the patients were remarkably affected with flatulency, and a morbid sensibility of the stomach, which complaints were remedied by the carminative effects of the cow-parsnip. It was given in doses of two or three drachms of the powdered root every day for a length of time, and a strong infusion of the leaves and tops, to be drunk at bed time. This medicine undoubtedly possesses considerable efficacy, and merits further trials in similar cases, for if it does not cure, it often mitigates the symptoms of epilepsy. See Dr. Orne's communication to the Massachusetts Medical Society, and American New Dispensatory.

The stramonium, or thorn-apple, is another remedy much to be relied on in the cure of this disorder; though its failure is not unfrequently to be expected, it will often justify the most sanguine expectations. The utility of this medicine, like many others, is frequently lost for the want of proper management and due perseverance. "Dr. Fisher, of Beverly, from extensive experience, assures us that great confidence may be reposed in the virtues of this medicine, in those cases of young persons where the fits occur

daily or monthly, at regular periods, especially if assisted by chalybeates, or such other medicines as particular symptoms appear to require. The patient must be kept constantly under the influence of the medicine, and will require every day one or two doses, according to the severity of the symptoms. The saturated tincture is the most convenient form for children, and the requisite dose may be known by the pupil being more or less dilated during its use." In one instance, a lady about fifty years of age was cured of alarming attacks of epilepsy by taking one grain of the extract of stramonium, once or twice in twenty-four hours; although she did not suffer another attack after commencing the use of it, she found it necessary to continue taking it, during several months, to remove all apprehensions of a recurrence, with which she was occasionally menaced. A single grain seldom failed to excite unpleasant vertiginous sensations, accompanied with an efflorescence about her face, and some degree of stupor. In another instance, as I have been informed, a man took fifty grains daily, divided into two doses, which constantly obviated a recurrence of the fits, though it produced dilated pupils, blindness, and sleepiness. See stramonium in American New Dispensatory. Persons liable to fits of epilepsy should live abstemiously, carefully refraining from all gross animal food, and the poison of spirituous liquors. They ought to cultivate composure of mind, and guard against all violent passions. Moderate exercise ought to be practised, avoiding extremes of heat or cold, and also such situations as may expose the patient to danger of accidents when suddenly seized with a fit.

Dr. Hosack has treated epilepsy with success by bleeding, by abstinence from animal food, and other means of diminishing the current of blood to the brain, considering it more a disease of the blood-vessels than of the sensorium. He has never found antispasmodics, or the metallic tonics, arsenic, zinc and copper, of the least use in this disease.

Epileptic fits are sometimes occasioned by imitation and sympathy; the presence of a young woman during a paroxysm has produced the disease in a number of young female spectators. The disease has also been known to arise from violent and outrageous fits of passion in children. Dr. Parkinson relates the following remarkable instance. A girl about seven years of age, having been habitually indulged by fond parents, was, whenever restraint was attempted, thrown into a violent gust of passion, which termi-

nated in an epileptic fit. After employing, without the least appearance of success, every remedy which physicians could devise, her parents, in despair, declined any further attempts at a cure. At length a friend recommended a remedy, which he asserted would, if employed with a strict attention to every circumstance enjoined, infallibly effect a cure. He directed two ounces of blood to be taken from the arm of the patient, about the full of the moon, and having stirred into it a tea-spoonful of salt, she was to swallow the mixture whilst still warm. If any return of the fit should occur, the same operation, and the same potion, was to be repeated on the ninth morning. Such was the confidence reposed in this singular prescription, that it was rigidly complied with, not, however, without exciting in the unfortunate subject of the experiment, the strongest signs of repugnance and horror. Complete success was the reward of their resolution, for not only was the return of the fit prevented, but a most unexpected event took place; the child was no longer prone to those violent gusts of passion to which she had hitherto been subject, wisely preferring submission to the alternative of drinking her own blood.

CATALEPSIA, OR CATALEPSY.

This singular disorder very rarely occurs in practice, and authors are not agreed respecting its nature and causes. In our nosology it is defined, a temporary suspension of the senses and voluntary motion, unaccompanied by profound sleep or stertorous breathing, circulation and respiration continuing, the limbs usually flexible; the body and limbs retaining the position in which they may be placed.

The fits generally seize the patient at intervals, and last usually a few minutes, though sometimes they continue for some hours or days. It is rarely preceded by any signs that indicate its approach. In a few instances, a stiffness of the neck or a dull pain in the head has ushered in the fit. In the disorder, the patient is without sense or motion, continuing in the posture in which the fit attacked him until a recovery from it; the limbs are moveable by another person, but however they are disposed, the patient never alters their position until the paroxysm is at an end. He neither sees,

hears, nor feels, whatever methods may be used to excite the sensations. He swallows greedily all that is given him; the countenance becomes florid; the eyes are open, seemingly fixed upon some object. At the close of the fit, he fetches a deep sigh, and then recovers.

The following case was communicated to Dr. David Hosack, by Dr. John Stearns, of Waterford, State of New-York.

"The occurrence of catalepsy is so unfrequent, that some writers of celebrity have even denied its existence. A detail of the symptoms and treatment of the following case, may therefore shed some light on this branch of medical science. The subject is a boy of eleven years of age, whose constitutional health, strength, and activity, have sustained no injury from the repeated paroxysms of this complaint. He has ever enjoyed all the qualities common to boys of that age.

"In the winter of 1804, he was first observed by his preceptor to pause in reading his lesson; this was then ascribed to a voluntary dumbness, and it was not till the recurrence of several paroxysms, that it was suspected to be the effect of disease. A few days after its first appearance in the school, it was discovered in the family, by his mother, when one of his brothers, a schoolfellow, remarked that 'Philo is dumb again.' This induced her to inquire into the particulars, of which she soon afterwards gave me full information. As she expected no relief from medical aid, I made no prescription, but occasionally called to learn the progress of the complaint. In the paroxysm I could observe no unusual variation in his countenance, except an involuntary unmeaning stare, and a trifling dilatation of the pupil. His muscles were not generally in a state of rigid contraction, but relaxed and susceptible of motion, although they did not possess the power to move. He remained perfectly motionless, and during the continuance of the fit retained the posture he had assumed at its accession. To this observation there is one remarkable exception. If he was walking when attacked, he never stopped, but continued to pursue the same direct course until the fit ceased, unless prevented by some intervening obstruction. The voluntary muscles, in this instance, were in full exercise, while the power of volition was entirely suspended. The time passed in the paroxysm was to him totally annihilated; he connected the last idea he had before the accession of the fit with the first one that occurred after its cessation, and resumed

the subject he was pursuing, as if nothing had intervened. If he was reading, or relating a story, or pursuing any amusement, or employment of any kind, he was sensible of no interruption.

"The paroxysms occurred irregularly ten times in twenty-four hours, and never exceeded three minutes in duration. His pulse has ever been natural, and no morbid action has disturbed any of the functions of his system.

"After the disease had continued in this manner four years, I prescribed the nitrate of silver, on the presumption that it was nearly allied to epilepsy, and required a similar treatment. This remedy was faithfully administered three months without producing any alleviation of the complaint. I then substituted the acetite of lead, the use of which was continued six weeks before any sensible effects were produced. After this period he was never known to have any more of the fits. They did not gradually disappear, but suddenly ceased.

"A few days after the final cessation of the complaint, he was affected with violent pains in his knees, and in the muscles of his thighs; they were suddenly transferred from these parts to his abdomen, where they were so violent as to require some medical aid, before he could obtain relief. Since that time, he has remained in perfect health, and entirely free from his original complaint."

CEPHALALGIA, OR HEAD-ACH.

The head-ach is so general a complaint that there are few persons who have not at some period of life been made experimentally acquainted with it. It is differently distinguished according to the degree of the complaint and the part which the pain occupies; as *cephalalgia*, when the pain is not very considerable; *cephalea*, when it exists in a high degree, and extends over the whole head; and *hemicrania*, when one side only is affected. When the pain occupies so small a part on one side of the forehead, that it may be covered with the end of the finger, it has been called *clavis hystericus*.

Head-ach may be either internal or external, and is oftener a symptomatic affection than a primary one, and frequently ensues

in consequence of a fever, or accompanies hysteria or some other nervous affection. It may, however, be occasioned by indigestion, foulness of the stomach, and by whatever distends the vessels of the head, or obstructs the circulation through them. It often proceeds from the suppression of customary evacuations; as the piles, bleeding at the nose, sweating of the feet, &c. A long exposure to the heat of the sun, a stoppage of perspiration, costiveness, or other causes which by impeding the motion of the blood in the lower extremities produce a greater fulness in the head; and also an acrid state of the fluids and translations of gouty and rheumatic matter from other parts of the body, may be enumerated as among the causes of this disease.

When the head-ach is owing to a fulness of blood, and the patient is of a sanguine habit of body, bleeding in the jugular vein will generally afford relief, and if necessary, cupping at the nape of the neck, or between the shoulders, and gentle purgatives may be resorted to. In most kinds of head-ach, especially if long continued and very violent, blisters should be applied to the neck, behind the ears, or any part of the head that is most affected. In some cases it will be proper to blister the whole head; sometimes they are more serviceable when applied to the back and legs. In persons of gross habit, issues, or a seton may prove beneficial. The feet and legs should be frequently bathed in warm water, aloetic wine or pills must be occasionally administered, and on some occasions it will be advisable to shave the head and wash with cold water and vinegar.

In phlegmatic constitutions, a head-ach may be relieved by the use of aloetic purgatives, and by blisters, and if much debility attend, the Peruvian bark in powder with about four grains of salt of wormwood in each dose, will prove an efficacious remedy. Considerable benefit will also be derived from taking twenty or thirty drops of antimonial wine twice a day in a cup of valerian tea, as it tends to promote perspiration. From the great sympathy between the head and stomach, it frequently happens that a foul state of the stomach produces a severe head-ach. When this is supposed to be the cause, an emetic must by all means be advised, and if costiveness attend, this should be removed by some proper stomachic purgative. After which, the Peruvian bark, with bitters and chalybeates, will be necessary to strengthen the stomach. When this complaint arises in consequence of some nervous affection, called

nervous head-ach ; after cleansing the stomach by a gentle vomit, and the bowels by some mild laxative, the most proper medicines will be, valerian, castor, asafœtida, and the root of skunk cabbage; and these must be accompanied with the usual tonic remedies, as Peruvian bark with steel, and stomachic bitter infusions of quassia, calamus aromaticus, and thoroughwort. In such constitutions, exercise on horseback, and a nutritive diet, and probably the shower bath, will prove advantageous and salutary, as tending to render the habit more robust and healthy. The application of a teaspoonful of æther to the temples, or the part affected, and covering it closely with the hand to prevent its evaporation too soon, will afford essential relief in the severest paroxysms of head-ach.

Cephalalgia Spasmodica, or the sick head-ach, according to Dr. Fothergill, is not the companion of any particular age, sex, constitution or season, but it is incident to all. The sedentary, inactive, relaxed, and incautious respecting diet, are the most exposed to it. The patient, he observes, generally awakes early in the morning with a head-ach, which seldom affects the whole head, but one particular part, most commonly the forehead over one or both eyes. It is occasionally fixed about the upper part of the parietal bone of one side only, darting from one place to another. With this is joined more or less sickness, and vomiting is in some easily excited, by which the pain soon abates. In some instances the pain goes off in two or three hours, in others it continues twenty-four hours or longer, and with a violence scarcely to be endured, the least light or noise producing excruciating distress. The returns of this complaint in those habituated to it, are very irregular, recurring in some cases every two or three days, while others remain free from it as many weeks or months, depending on the various causes by which it is produced. For the most part it proceeds from inattention to diet, either in respect to kind or quantity, or both ; but this the sufferer will from experience be able to ascertain. The complaint is most readily removed by the administration of an emetic, or a mild cathartic followed by an anodyne. But to prevent a return of the complaint, costiveness must be avoided by the use of pills of aloes, rhubarb and soap, daily repeated, and when acid abounds in the stomach, bitters with alkaline salts should be advised. The late Dr. John Warren was in the habit of prescribing a few grains of calomel in cases of sick head-ach from acidity in the stomach, and often with relief.

"Drinking a draught of warm water, at bed-time, dilutes the acid and gives temporary ease." In *periodical head-achs*, after premising an emetic and cathartic, the cinchona or thoroughwort will generally effect a cure; though I have met with a few instances of periodical head-ach in which such a degree of inflammation prevailed as to require bleeding and a moderate course of calomel and opium. In other similar cases, the arsenical solution of Dr. Fowler will often succeed; beginning with about three or four drops repeated twice a day, and increasing the number gradually to ten or twelve. If the head-ach proceed from a vitiated state of the humours, as in scorbutic constitutions, or from a venereal taint, the decoction of sarsaparilla with raisins, or an infusion of the roots or leaves of phytolacca decandra, will prove advantageous if freely used, but in the latter affection, mercurials must be added to complete the cure. Instances will occur in which it will be found indispensably necessary to resort to opium in order to procure relief from the extreme violence of pain, continual watching, and even delirium with which the patient is afflicted. About twenty drops of laudanum may be taken in a cup of valerian tea, several times in a day, and bits of linen moistened with laudanum and camphorated alcohol should be applied to the part affected; care being at the same time taken to avoid costiveness, which aggravates the complaint. That sickness of stomach and vomiting which women often experience after taking a dose of opium, may be greatly mitigated or prevented by a cup of strong coffee without milk, if taken before the narcotic effects of the anodyne are over. Persons who are constitutionally subject to head-ach, ought to guard against wet feet; they should on no account go to bed with their feet cold, and they ought always to lie with their head high, to avoid any thing tight about their neck, and to refrain from the use of spirituous liquors.

STERNALGIA, OR ANGINA PECTORIS *

In the American Medical and Philosophical Register, vol. IV, we find a review of an Inaugural dissertation on this disease, by

* Dr. J. Mason Good, in his nosology, terms this disease Sternalgia, or Breast Pang, and describes two species, acute and chronic, breast pang. The chronic species he observes has occasionally continued to harass and weaken the constitu-

Henry Bogart, A. M. member of the medical and surgical society of the University of New-York. The following is copied from that work as containing the valuable observations of the reviewer, which we consider amply sufficient for our purpose.

Few diseases in the system of nosology, are more peculiar in their character, or fatal in their consequences, than *angina pectoris.* It therefore cannot but appear remarkably singular, that so important a disorder should have altogether escaped the attention of the ancients, and that we should be indebted to authors of comparatively late times for all that has been written concerning it. In 1768, Dr. Heberden read before the College of Physicians of London, an account of a disease of the breast, distinguished by very peculiar symptoms, and which he published in the second volume of the Medical Transactions. He denominated it angina pectoris, a name most characteristic of the disorder. The valuable treatise of Heberden gave rise to a spirit of inquiry on the subject, and interesting observations were soon after made and recorded respecting it, by Drs. Wall, Fothergill, and Percival.

We shall give Dr. Bogart's description of the symptoms of this disease, in his own words:

"The attacks of angina pectoris are, in most instances, sudden, and occur in those who have previously enjoyed perfect health. In a few cases, various painful affections of different parts of the body, have been observed to precede them. Spasms and indigestion of the stomach, and pains in the limbs, are not unusual, which are, for the most part removed, or diminished in violence, on the appearance of the disease, the first symptom of which, is an acute pain or stricture, commencing in the region of the sternum, and shooting, with peculiar pungency, in the direction of the pectoral muscle, confining itself chiefly to the left side, and sometimes affecting the left arm.* In two cases recorded of this disease, the sensation in the superior extremities was compared, by the patients, to the rushing of a hot fluid; very often it is that of a numbness only. It is generally noticed when the disorder is considerably advanced, though sometimes it is altogether absent; being by no means, as Dr. Parry observes, essential to angina pectoris. The

tion, without actually destroying it for twenty years. His mode of treatment is not essentially different from other authors.

* In twelve or thirteen persons whom Dr. Wall had seen, the pain was in the direction of this muscle, affecting one, or commonly both of the arms. It is remarked by Dr. Heberden, that a soreness has been felt in these parts.

patient is usually seized in this manner while walking, or on going up an acclivity. Though the pain is violent, and comes on suddenly, yet it generally is of short duration, and in some instances, hardly engages the attention of the patient. A case, however, is related by Dr. Parry, of the Rev. Mr. S. in whom the pain continued from the first attack of the disease, until its fatal termination, and in which it was without an interval, subject only to exacerbations. On standing still, the pain in the commencement of the complaint ceases; but, after repeated paroxysms, it remains for some time, accompanied with oppressed breathing, anxiety, sighing, palpitation of the heart, and coldness of the extremities; an agonizing struggle for existence ensues, attended with an apprehension of instant death.

"This pain, or constriction, comes on in paroxysms, which in the beginning of the disease, do not take place so frequently, or so intensely, as when it is more advanced.

"The paroxysms of this affection, as to their duration, are also various; they at one time, terminate in a few minutes, and at another, last hours, and even days, and occasion the severest distress. Dr. Heberden met with one case in which the paroxysms continued for several days. Dr. Black, of Newry, Ireland, has recorded a very interesting example of the disease, the last paroxysm of which commenced on Friday morning, and lasted till Saturday evening. When I visited my patient, says the author, I found him in exquisite torture; the pain was constant, but very minute, or every two minutes, it shot with peculiar violence and pungency from the left breast towards the scapula, producing each time a convulsive start, in which every muscle in the body seemed to be affected. He continued in the greatest agony till four o'clock, Sunday evening, when he expired. Repletion of the stomach, walking, the indulgence of the passions, especially those that are violent or attended with anxiety, are frequently their exciting causes. In the case of Mr. J. Hunter, the spasm was most usually excited by anxiety, or by the indulgence of the violent passions; the more tender affections of the mind did not produce it; he could relate a story which called up the finer feelings, as those of compassion and admiration, so as to make him shed tears, without suffering from a return of the pain. But as the disorder proceeds, no particular cause is essentially necessary for the return of the paroxysms. The pain is often relieved by eructations of wind, by strait-

ening the vertebræ of the thorax, and by resting after a full inspiration. It is always increased by motion, and mental irritation.

"No uniformity is observed in regard to the state of the pulse during the paroxysms. It may be remarked, however, that the best written histories of the disease, do not afford satisfactory information on this point. It is represented to be sometimes not materially affected. In two cases, recorded in the Medical and Physical Journal, vol. VI. p. 321, the arterial system was not much affected, even during the fits of pain and oppression, although the patients suffered little short of suffocation; and Heberden also observes, that sometimes it is not in the least disturbed. At other times, essential deviations from its healthy state, have been noticed; the circulation being much affected, the pulse contracted, small, and irregular. Its condition probably varies, and depends on the severity and duration of the pain; yet there can be little doubt that the pulse must, at times, give evidence of disturbed circulation. Dr. Hosack, who has frequently met with the disease, mentions, that in the case of a patient whom he attended, and who had suffered repeated attacks, the pulse was remarkably hard. In the intervals of the paroxysms, it is regular and natural, and the patient is free from every symptom of the complaint." P. 24—49.

Dr. Bogart enters at some length into a consideration of the causes of this remarkable affection, and succinctly delivers the opinions of the most eminent practitioners relative to them. Dr. Heberden concluded that the principal symptom was produced by a convulsion of the part affected. Dr. Wall, having discovered indurations of the semilunar valves at the origin of the aorta, with other diseased appearances of the heart, attributed the origin of the complaint to a rigidity of those valves. Dr. Matthew Baillie maintains a similar opinion relative to the induration of the valves, of the heart. Dr. Fothergill believed that excesses of passion and anxiety contributed more to the increase of the disorder than a combination of all the other causes. Dr. Parry's theory is, that angina pectoris arises from an incluration of the coronary arteries, and that this kind of mal-organization acts by diminishing the energy of that organ.

We have not room for the arguments Dr. Bogart has adduced in opposition to this popular theory of Dr. Parry: we think he sufficiently disproves it, from the experience and observations of many distinguished practitioners. The opinion which Dr. B. forms

of the nature of angina pectoris is, that it proceeds from a *plethora of the blood-vessels, more especially from a disproportionate accumulation in the heart and larger arteries;* an opinion maintained by Dr. Hosack, in a former number of the Register, and to which Dr. B. refers. He considers the large accumulations of fat, the effusion of water in the thorax and pericardium, the distended state of the vessels, and even the bony deposits occasionally met with in the valves of the heart, as the effects of such plethora.

"We observe in confirmation of his (Dr. H.'s) opinions, that almost every writer on the complaint, has commenced his cases by remarking the age and habit of the patient. The advanced life and corpulent habit are of so frequent occurrence, that no doubt can be entertained of their relation to the disease. The season of the year at which the first attack commenced, is not recorded with the same particularity; but when noticed, it was most usually in the winter and spring of the year. Most of the patients afflicted by the disorder, had lived in a sedentary manner. Spontaneous discharges of blood from different parts of the body, giddiness, and numbness of the extremities, were often observed, and are all evidences of a plethoric state of the system." P. 40.

The summary of morbid appearances, with which we are furnished, is taken from Dr. Parry's Inquiry, but considerably altered and enlarged.

On the *cure* of this afflicting and unfortunately too fatal disorder, we shall insert Dr. B.'s valuable remarks entire.

"Instances of the angina pectoris have frequently occurred; its symptoms and causes have been investigated; but small is the progress which has been made in the discovery of remedies necessary for its cure.

"The question naturally arises, to what is this to be attributed? Previously to our answering, we shall examine, in as concise a manner as may be consistent with perspicuity, the principles on which the different modes of cure have been proposed, and the success that has attended them.

"Dr. Heberden, considered spasm as the cause of the complaint, and therefore prescribed those medicines which relieve and quiet convulsive motions; opiates effectually prevented or weakened the night fits. Bleeding, vomits, and other evacuants were of disservice in his hands; it is not mentioned whether they were used during the paroxysms, or in the intervals.

"The advocates of the theory that the disorder is occasioned by an accumulation of fat about the heart, endeavour to remove or diminish it by evacuating the thinner fluids of the body, by means of issues, and by increasing the secretions.

"Dr. Parry, who attempted to prove that ossification of the arteries depends on an increased impetus of blood, more especially when amounting to inflammation, supposed that abstinence from bodily exertions, and attention to the means of obviating an inflammatory diathesis would have considerable effect in preventing the organic lesion of the coronary arteries.

"On the attack of this malady, his first indication is to obviate the fulness of the vessels, which acts by oppressing the heart, weakened by disease, and deficient in energy. Regimen and medicine are the means used for that purpose; of the latter he recommends bleeding, purging, and issues.

"Speaking of blood-letting, he remarks, that it must be employed with great caution; that a degree of stimulus may be left sufficient for the purposes of healthy circulation. He confesses that he is unacquainted with the actual effect of that remedy.

"Purging appears to him to disorder the circulation in so great a degree that it cannot be safely employed.

"In cases where there may be reason to suspect plethora, issues are recommended, especially when danger is to be apprehended from the more speedy evacuation by venesection. During the paroxysms, in cases of imminent danger, he advises bleeding, the use also of purgatives and enemata. Stimulants, he observes, can be safely taken only so far as they may be required to remove flatulency from the stomach; or their use should be referred to that period, when, after the failure of the other means suggested, the pulse is not at all, or scarcely to be felt.

"In fine, Dr. Parry regrets that the most important part of his subject, that which respects the cure or relief of the complaint, should have been so defective.

"On the supposition that a diminished energy of the heart is the cause of the disease, the argentum nitratum has been prescribed; taken into the stomach, it was supposed to produce its effects through the medium of the nerves.

"Fowler's solution of arsenic, the application of a solution of the tartrate of antimony to the breast, cicuta, hyosciamus, and other narcotics, are all said to have been used with some advantage.

" Dr. Schmidt observes, that the radical cure is very difficult, especially if the disease has been of long duration, but that it is not to be considered as an incurable disorder; he had met with several instances of patients who had laboured under it, and were restored to perfect health. Regarding it as a case of spurious gout, he has two indications of cure, which it would be needless here to mention. The angina pectoris can have no farther relation to the gout, than as this latter disease depends upon an overloaded condition of the vessels, which, indeed, is one of its most common causes.

" We have thus stated, as far as the limits of an inaugural dissertation will permit, the respective modes of cure adopted by different writers. That they should have differed so materially, was to be expected from the different views entertained by medical men as to the nature of the disease. Regarding some one remarkable symptom or appearance as characteristic of the disorder, to the exclusion of others, equally important, they have necessarily, in many instances, limited their view, and been inadvertently led into error.

" We have already given the particular opinions entertained by Dr. Hosack relative to the nature and treatment of angina pectoris; the successful result of his practice in the complaint, appears to afford sufficient evidence of their correctness. The remedies which he prescribes with most advantage, are those which are calculated to diminish the fulness of the system; for this purpose he has recourse to copious and repeated blood-letting, active cathartics, as jalap, calomel, gamboge, and other evacuants; and for the removal of the spasm, palpitation of the heart, and coldness of the extremities, æther, volatile alkali, the compound spirits of lavender, and other diffusible stimuli are exhibited. Opiates, by lessening and occasionally suspending the spasm, are also used with advantage, especially after blood-letting has been freely employed. Warm bathing and friction of the extremities, from the experience of their beneficial effects, are also highly useful, by promoting the circulation in the extremities, and a determination to the surface of the body, and thereby proportionally diminishing the fulness of the heart and larger vessels.

" Independent of the medicines here recommended, our chief hope for preventing the returns of the disease must be placed in the diet and regimen. The diet of the patient should be plain,

easy of digestion, and composed of a due proportion both of animal and vegetable food; but the use of wine, ardent spirits, and especially malt liquors, and the usual condiments of the table, should be carefully avoided, or very sparingly taken; late suppers should also be totally prohibited.

"Regular and daily exercise, flannel worn next the skin and frequently renewed, by their effects in promoting the excretions, no less contribute to counteract the plethora to be guarded against.

"A control of the passions, as has before been observed, is no less necessary to prevent a return of the paroxysms of this disease."—P. 49—56.

Two remarkable cases of angina pectoris are recorded in the sixth Vol. of the Medical and Physiological Journal, which were cured by applying cloths to the sternum wetted with a mixture of tart. antimony, one drachm, spir. camphor, half an ounce, water, one pound. The stimulus from this application produced a severe eruption on the skin, having the peculiar malignant appearance of carbuncles, many of which suppurated. As soon as the eruption appeared, considerable relief from the spasmodic affections was obtained in both instances, and the patients gradually recovered, after continuing the remedy two or three times a day for about a month. Dr. Macbride and Dr. Darwin adduce also several instances of cure by inserting a large issue on the inside of each thigh. (Thomas' Modern Practice.)

"In some instances of angina pectoris, its paroxysms are unfrequent and unalarming for six, twelve, or even twenty years; but in other cases they have terminated fatally in a few days." In young persons, and when the disease is gradual in its progress, the hope of recovery may be entertained. According to Macbride, in a majority of cases, the persons affected were between fifty and sixty years of age. Seventeen is the earliest, and seventy-seven the latest period of life at which the disease has occurred.

A patient of Dr. Fothergill, in a sudden and violent transport of anger, fell down and expired immediately. The case of the celebrated John Hunter was of this description; having suffered repeated attacks for several years, he died suddenly, while in a state of extreme mental agitation which he could not control. In the New-England Medical Journal, the late Dr. John Warren has detailed the case of Rev. James Neal, of New-Hampshire, whose habit was rather plethoric, neck short, inclining to corpu-

lency. He was seized with a severe paroxysm in April, 1806, while performing his services in the pulpit. Repeated bleedings, and all the usual remedies, with proper regimen, were adopted and persevered in until the summer of 1808, when he expired in a paroxysm.

An affecting instance of this disease has recently occurred to my observation in a respectable and valued friend, which terminated fatally in six days from the first attack, having however experienced some intervals of respite from the paroxysm. A younger brother of this gentleman has for five or six years laboured under complaints of a similar nature, but by copious bleeding, and great abstemiousness and care, he keeps himself free from any violent attack. Another gentleman was seized about eight months since, who having adopted a similar course, enjoys exemption from violent symptoms. It is remarkable that all these persons were corpulent, with short thick necks, and apparently plethoric.

ASTHMA.

This disease is characterized by very laborious respiration, attended with a wheezing inspiration, distressing anxiety, and a sense of oppression and stricture across the chest, increased in the horizontal position; usually with cough, and a mucous expectoration; attacks most generally at night, occurring in paroxysms at uncertain intervals; oftentimes periodical. It is most frequent in the decline of life, and more incident to men than women. It is frequently an hereditary disease, though it does not commonly appear before the age of puberty. Infants, however, are not altogether exempt from attacks of spasmodic asthma. This disease has generally been divided into two kinds. When it is attended with a discharge of mucus or humours from the lungs, it is called the *humid* or *pituitous* asthma. But when no expectoration takes place, it is denominated the *dry* or *spasmodic* asthma; though, in fact, both species appear to partake of a spasmodic nature.

The paroxysms, which generally commence in the night, are often preceded by lassitude, torpor, drowsiness, a sense of weight or pain of the head; and symptoms of dyspepsia or indigestion seem to be connected with the disease. During the first sleep, or

soon after, the patient is seized with a sense of tightness and stricture across the chest, and a feeling of uneasy oppression in the lungs, impeding respiration. There is either no cough present, or it is not attended with any expectoration; the patient, if in a horizontal position, is obliged immediately to become erect, and to fly for relief to the open window. The difficulty of breathing increases, and is attended with a wheezing noise, the voice is weak, and the exertion of talking is more or less painful: after these symptoms have continued for some hours, an expectoration of mucus or phlegm takes place, and the symptoms abate; but there is a greater or less degree of tightness across the chest, and of difficulty of breathing, throughout the course of the following day. Towards evening, or about midnight, for several successive nights, the symptoms suffer an exacerbation, and a remission takes place towards morning, and after some days, on the expectoration becoming more copious, the paroxysm ceases altogether. As the lungs cannot be sufficiently dilated with air, the passage of the blood through the pulmonary vessels is interrupted; hence the face, in full and plethoric habits, appears red and bloated, the vessels of the eyes are turgid, and the pulse becomes weak, quick, and irregular.

The patient having suffered one paroxysm, very rarely escapes subsequent attacks at uncertain periods during the remainder of life. On some occasions, when the disease has fastened its hold on the constitution, the paroxysms recur in the spring and autumn; on others, it attacks periodically once in ten days or a fortnight, or regularly at the full and change of the moon; and indeed instances are on record of the unhappy patient being afflicted with the distressing symptoms to such a degree as to be unable to lie in bed, resting only in a chair for seven weeks together. By a long continuance of the disease, the vigour of the constitution becomes greatly impaired, the intervals between each paroxysm are shorter, the attacks more violent, the difficulty of breathing, the sensation of tightness over the breast, and anxiety, become so inexpressibly severe that the patient is constantly alarmed with the fear of a total suffocation. Yet a fatal termination seldom occurs; the sufferings are generally protracted to many years, when the vital powers being in a measure exhausted, a dropsy, or some other disease supervenes, and severs the attenuated thread of life.

In a fit of convulsive asthma, as soon as an easy, copious expectoration takes place, it affords great relief; the evacuation coming immediately from the vessels which have been obstructed, it denotes a solution of the contraction of the bronchial air vessels, and thus the fit is commonly terminated; but this secretion of mucus from the glands of the lungs continues in a greater or less degree to harass the patient, the glands are relaxed, the bronchial vessels obstructed with phlegm, and the freedom of respiration is constantly disturbed. Thus the humoral asthma is united with the convulsive, and both together existing in the same patient, and acting sometimes separately, and again conjointly, greatly aggravate the symptoms of each other. In most cases more or less blood is spit up, proceeding from a rupture of blood-vessels in the lungs. If the quantity is very considerable, or if blood gush from the nose, although it may afford present relief, it is an unfavourable symptom, denoting the greater violence of the disease. "The respiration becoming suddenly quick and short, the pulse weak and irregular, paralysis of the arms, great depression of strength, a scanty secretion of urine, and frothing at the mouth, indicate extreme danger."

Asthma may proceed from any cause that obstructs the circulation of the blood through the lungs; such as a stoppage of customary evacuations, violent exercise, noxious vapours arising from metals or minerals received into the lungs; impure or smoky air, cold and foggy atmosphere, scrofulous, rheumatic, or gouty and scorbutic acrimony; and from a weak digestion, attended with great flatulency and general debility.

In the treatment of asthma, if the patient is young and of a plethoric habit, moderate blood-letting in the paroxysm may afford some relief, but in general this operation is inadmissible, and elderly persons have too often been injured by the practice. Cupping between the shoulders frequently proves beneficial; gentle laxatives and clysters should be employed at proper intervals to keep the bowels regular, and the feet and legs bathed in warm water. But gentle emetics of ipecacuanha should on no account be dispensed with, and when a paroxysm is about to occur in the course of the night, an emetic exhibited in the evening will generally prevent it. The medicine, however, best adapted to excite vomiting in this distressing disease, is probably the lobelia inflata, or Indian tobacco. About a table-spoonful of the saturated

tincture, will in general induce a moderate vomiting, and if repeated, a copious discharge of viscid mucus, by which great relief is obtained; the medicine may be repeated as often as the operation is desired, and even independent of its emetic effect, when taken in small doses, this medicine procures a freedom of breathing superior to any other known remedy; and experience has often induced asthmatic patients to take small doses of it every quarter or half hour during the severity of the paroxysm. With the view to assist and promote expectoration in the moist asthma, the lac ammoniacum and syrup of squills should be prescribed, either separately or conjoined, and it is believed that squills may be considered as the most valuable expectorant of any in the Materia Medica. Squills may be combined with digitalis with great advantage. But asafœtida is to be preferred to the gum ammoniacum as an antispasmodic and expectorant. In spasmodic asthma, asafœtida, in doses of four or five grains, given every three hours, will seldom fail to procure essential relief. The volatile alkali has been known to relieve the dyspnœa during the fit, and if given in the form of spiritus mindereri, a table-spoonful every half hour, with about one eighth of a grain of tartar emetic, considerable relief may be expected. Strong coffee, without sugar or milk, has been recommended as being well adapted to abate the violence of an asthmatic fit; it ought to be of the best Mocha, newly roasted, and made immediately after grinding, in the proportion of an ounce for one dish, which is to be repeated fresh after the interval of a quarter or half of an hour; by this remedy, fits of spasmodic asthma have been entirely removed. Blisters and issues have been commonly employed, but they seem to relieve in those cases only which are occasioned by the stoppage of some habitual discharge, or repelled eruption, or in the complicated complaints of old people. When antispasmodics are supposed to be indicated, opium and æther are deemed the most efficacious when combined, and, on some occasions they have been taken in large and repeated doses with the happiest effects. Among our valuable antispasmodics, are skunk cabbage and stramonium, the former of which is capable of alleviating the most distressing symptoms in spasmodic asthma, and being a simple and harmless medicine, may be used in the freest manner, either in powder or infusion; the trial of it ought in no case to be omitted. The stramonium has of late years acquired great repute as a remedy in asthma. If no evidence

can be adduced of its having effected permanent cures, ample experience affords sufficient attestations of its efficacy as a soothing palliative. It is in general administered in the form of extract, beginning with one grain, and increasing gradually until it induces some sensible effect on the system, or until permanent relief is obtained. Other preparations of this plant may be employed, as a tincture, syrup, or the dried leaves; but the adequate dose may be properly adjusted. The smoking the prepared herb or dried root, has in numerous instances been remarkably beneficial in relieving the dyspnœa and wheezing, so troublesome to asthmatic patients. The severity of the paroxysm may be greatly moderated by the inhalation of the warm steams of infusions of white poppy heads, or chamomile or elder flowers.

It has been observed that asthmatic patients are frequently troubled with flatulency of the stomach, acidities, and other symptoms of dyspepsia; for the removal of these complaints, absorbents and bitter infusions, as recommended in dyspepsia, will answer a valuable purpose: opium combined with chalk, according to Dr. Bree, will produce excellent effects in allaying irritation proceeding from dyspepsia of the first passages. Two table-spoonfuls of vinegar and an equal quantity of cold water, has likewise been found very useful in counteracting the flatulence of the stomach, and relieving the asthmatic fit. When asthma is attended with symptoms of dyspepsia, I am informed by Dr. William Tully, president and professor of Vermont Academy of Medicine, that he has experienced the superior efficacy of equal parts of tincture sanguinaria and tincture lobelia inflata, in doses of two or three tea-spoonfuls every few hours until its effects were evident.

The digitalis is another medicine recently introduced as a remedy in asthma; the tincture, in doses of fifteen drops, repeated twice a day, has in several instances, as appears by Dr. Thomas' Modern Practice, produced astonishing effects; the most violent symptoms were greatly mitigated, and the general state of health visibly improved, but its efficacy is said to be increased by the addition of opium. When these two medicines have been given in the dose of half a grain of each every four or five hours, it has suspended the distressing symptoms, and been highly serviceable in cases of spasmodic asthma. Opium may be combined with other antispasmodics to advantage in some cases of nervous asthma, as follows: take of the tincture of wood soot, one ounce,

tincture of castor and elixir paragoric, each half an ounce; a teaspoonful for a dose two or three times a day.

For the attainment of permanent relief in the dry asthma, nothing, it is said, is found to answer a more valuable purpose than eight or ten grains of ipecacuanha, according to the strength and constitution of the patient, taken every other morning; this produces the happiest effects, acting sometimes as a mild emetic, at others as an antispasmodic, or sedative, allaying the irritation of the nerves, and preventing a return of the paroxysm.

In old people, affected with asthma or other disorders of the lungs, the balsam of Peru, in doses of thirty drops, three times a day, will be found peculiarly useful as a palliative remedy.

In the intermission of asthmatic paroxysms, it is important that we have recourse to tonics, as the Peruvian bark, stomach bitters, and the preparations of iron, to strengthen the habit, and obviate the recurrence of the fits; and to assist the effects of these remedies, cold bathing or the shower bath, ought not to be neglected. Issues and setons are beneficial in both kinds of asthma, and the use of them should never be discontinued. In every species of asthma, the patient's diet should consist of such things as are light and easy of digestion, carefully avoiding whatever may tend to generate flatulency. Animal food of the lightest kind, taken in a moderate quantity, will be the most proper; garlic and onions are salutary, but other vegetables, and all spirituous and fermented liquors, cider excepted, will prove detrimental; proper exercise, as riding and sailing, with a change of air, ought to be pursued.*

COLICA, OR COLIC.

THERE are several kinds of disorders of the bowels denominated colic, and authors distinguish them according to the different causes from which they derive their origin. The characteristics of this

---

* It may not be improper to compare an asthmatic patient with a broken-winded horse. The disease is identically the same in both. The remedies which have been found the most effectual in that noble animal, the horse, are lime-water, and the seeds of the common sun-flower, (corona solis); the seeds of this plant yield a large quantity of excellent oil, and when given freely with the food it is said to prove a very effectual remedy.

disease are a painful distention of the whole lower belly, with a twisting round the navel, vomiting and costiveness.

The colic is to be distinguished from inflammation of the bowels, by the spasmodic contraction of the abdominal muscles, by the absence of a trifling degree of fever, by the state of the pulse, which is scarcely affected, and by the diminution of pain upon pressure.

I shall here but briefly treat of those species termed the flatulent or windy, the bilious, the hysteric, and the nervous colic.

The *flatulent* or *windy colic* is known by a wandering pain in the bowels, with costiveness and rumblings, which abate when air is expelled, either upwards or downwards. There is no great thirst, and the pulse varies but little from the natural standard. Persons of a delicate habit are most liable to this complaint, and it often is produced by unripe fruits, meats of hard digestion, flatulent vegetables, and fermenting liquors. The most speedy relief in this case will be obtained by some stomachic cordial, combined with opiates, as spirit lavender compound, essence of peppermint, æther and landanum, repeated in proper doses and intervals, until the pain abates. This should be accompanied by infusions of cow parsnip, garden angelica, anise or caraway seed, and a little gin or brandy, may be added. Emollient and carminative clysters with half an ounce of oil of turpentine may be at the same time injected, and fomentations to the whole abdomen applied; should clysters fail to produce evacuation from the bowels, the castor oil with half its quantity of elixir salutis, will form an excellent cathartic for that necessary purpose. If the symptoms increase, and threaten an inflammation of the bowels, immediate recourse must be had to bleeding, the warm bath, and blistering over the abdomen.

The *bilious colic* prevails most in summer. It is attended with acute pain diffused over, or in different parts of the abdomen, often fixed about the region of the navel, and the abdomen is sometimes much tumefied. The patient is troubled with a bitter taste in the mouth, with great heat, thirst, and fever, and a vomiting of yellowish or greenish bile. He discharges little or no urine, and there is an obstinate costiveness. Instances of such violence have occurred that the peristaltic motion of the intestines become inverted, and the fæces, and even the clysters have been thrown up by vomiting, which constitutes the true *iliac passion*.

The bilious colic is considered as a highly inflammatory disease, for the removal of which recourse must be had to the lancet with a very liberal hand. A copious evacuation of blood amounting to eighteen, twenty, or even thirty ounces if the subject be a robust adult, will answer the first indication at the commencement. This, or a repetition of it by abating inflammatory and spasmodic action, will in general arrest the progress of the complaint, and pave the way for the operation of such cathartic remedies as the case imperiously demands. It will be altogether useless, however, to administer purgatives until spasm and irritation are in a measure appeased. The means most proper to be adopted are moderate doses of opium, and if this cannot be retained on the stomach, the same medicine should be injected into the rectum, and recourse must be had to the warm bath, or immersing the patient up to his breast in luke warm water, and at the same time applying friction to the abdomen. These, or emollient fomentations occasionally repeated, will have a happy tendency in allaying spasm, mitigating pain, and promoting the desired evacuation. Emetics are often necessary unless spontaneous vomiting has emptied the stomach or exhausted the patient. Our next attempts should be directed to the removal of constipation by means of suitable purgative enemata. A strong infusion of senna, in one pint of which one ounce of Glauber's salts has been dissolved, often proves exceedingly efficacious. By some the following terebinthinate clyster is held in preference. Take common turpentine, half an ounce, or spirits of turpentine one ounce, rub it with the yolk of one egg until they are well incorporated, then add a pint of linseed tea or warm water. In obstinate constipation attending bilious colic, recourse is often had to the sedative powers of the fumes or infusion of tobacco with the happiest effects. We are however cautioned against the use of a strong infusion, as it has been known to induce fatal consequences; half a drachm of the leaves infused in a pint of water is the quantity not to be exceeded at one time. The smoke is milder in its operation, and is employed by blowing it from the bowl of a common pipe into a tight bladder furnished with a tube, and then injected by the way of clyster. I have more than once witnessed its exhibition to such extent that it has passed the whole length of the alimentary canal and escaped by the mouth. It has often been advantageous, but never productive of unpleasant effects.

During the employment of these remedies, or immediately after the irritation is by their means allayed, active purgatives must be diligently employed until a thorough evacuation of the canal is effected. One of the best preparations as a carthartic, in obstinate colic, is equal parts of castor oil and the oil of turpentine, a large spoonful of this mixture given every hour, if not too offensive to the stomach, abates the pain and removes the obstruction in the speediest manner. Should this, however, be rejected by the stomach, the croton oil, in doses of from half a drop to two drops, may be given with a good prospect of success. A solution of Glauber's or Epsom salts, or an infusion of senna, or both combined, may be given occasionally, and should these means prove unavailing, the following pills may be the next resort. Extract of butternut, three grains, calomel, three grains, opium, a grain. Three or four of these for a dose every two or three hours. The opium allays the irritation and spasm and affords opportunity for the other articles to produce a carthartic effect.

Another remedy to be mentioned as efficacious in obstinate constipation is tartar emetic in the form of enema, from ten to fifteen or twenty grains of this dissolved in about four ounces of water, and injected into the rectum, have been known to rescue the patient from the most imminent danger. The application of blisters and cold water dashed over the abdomen and the lower extremities, or injected by the way of clyster according to the favourite practice of Dr. Rush, have been highly commended and are well deserving attention. In cases which assume a desperate aspect and resist the ordinary course of remedies judiciously persisted in, we are by some advised to adopt the old practice of giving quicksilver to the extent of twelve or more ounces, but although in one instance I can vouch for the successful result of this, it must be deemed a precarious remedy and not altogether free from danger. When the vomiting continues to be urgent, it must be appeased by the use of the saline draught with liquid laudanum, drinking mint tea or water in which toasted bread has been boiled, and by the application of the leaves of mint wet with spirits to the pit of the stomach. A tea-spoonful of æther with thirty drops of laudanum in a cup of cold water will sometimes check the vomiting and alleviate distress, but laudanum must often be injected into the intestines. From its bitter and stomachic quality, the powder of colombo root, in doses of twenty or thirty grains, has been found

particularly serviceable in appeasing the vomiting and correcting the bile in these cases.

In those persons who are subject to frequent returns of bilious colic, it is recommended as a valuable preventive to use a decoction of the root of the common mulberry tree. Dr. Mease, in his edition of Willich's Dom. Ency. speaks of it with considerable confidence, having received accounts of some well attested instances of its successful employment.

The *hysteric colic* is peculiar to women of an irritable disposition. It resembles, in respect both of pain and vomiting, the preceding species, but it is more particularly characterized by lowness of spirits, difficult breathing, and severe spasm and costiveness.

In the cure of this kind of colic, neither bleeeding nor severe purging is in general deemed admissible. A mild emetic may be advised, and the costiveness should be removed by clysters and the mildest laxatives; after which, proper doses of laudanum ought to be directed occasionally, and antispasmodics, as valerian, castor, asafœtida, and the skunk cabbage, to complete the cure and obviate its return.

A plaster composed of aromatic and anodyne ingredients, applied to the pit of the stomach will be serviceable.

Colica Pictonum, or the Dry Belly-ach.

This species of colic is attributed to the deleterious properties of lead, when it has been received into the system, either by swallowing into the stomach, or by its fumes absorbed by the pores of the skin, or received into the lungs. It has been denominated the *Devonshire colic*, from its great prevalence in that country, occasioned, as is supposed, by the drinking of cider kept in vessels of lead, or where this poisonous metal is used for fastening the nails in the vats. The colic of Poictou, and the dry belly-ach of the West-Indies, are of the same origin, and occasioned by rum distilled through leaden worms. Painters, plumbers, and miners, and all who are employed in the manufacture or the use of lead, are more or less liable to be affected with this species of colic. But this disease is not to be ascribed to the effects of lead exclusively, for long continued costiveness, acrid bile, cold applied either to the extremities or to the belly itself, a free use of unripe fruits, acrid food, or drink, such as sour wine or cider, are enumerated

among its causes. The patient is seized with an acute spasmodic pain in the pit of the stomach, which extends gradually to the whole intestinal canal; particularly round the navel; the bowels are frequently drawn towards the spine, so as to render the injection of clysters impracticable. At the same time, there is a loss of appetite, yellowness in the countenance, slight nausea, and obstinate costiveness. Soon after, the stomach is distended as with wind, and there are frequent retchings to vomit. The whole region of the belly becomes highly painful to the touch, the muscles of the abdomen are contracted into hard irregular knots, or lumps. The pulse is generally low, but a little accelerated by the pain. The patient discovers a lowness of spirits; the extremities are often cold, and by the violence of pain, cold clammy sweats and faintings ensue. In this miserable condition, the patient sometimes continues for three or four weeks, or even for six months; in which case the pains become intolerable, and the patient's breath acquires a strong fœtid smell. At length, when the pain in the bowels begins to abate, it is succeeded by a pain in the shoulder joint and adjoining muscles, with an unusual sensation, and tingling along the spine of the back. This soon extends itself to the arms and legs, which become paralytic, with a total loss of motion. Sometimes fatal convulsions occur; at others, the true iliac passion is produced, which also soon proves fatal.

The medical treatment in this dreadful disease, is in some respects similar to that of an inflammation of the intestines, to which it is nearly allied. With the view of obviating inflammation, we are advised, in the first instance, to draw blood in a quantity proportioned to the age and habit of the patient, unless from debility, advanced life, and mildness of the attack, the evacuation may be deemed improper. A gentle emetic of ipecacuanha, and repeated doses of castor oil, with laudanum, should be directed, and this last continued until, with the aid of emollient clysters, the obstructions in the bowels give way. For the purpose of removing spasm, we are directed to the employment of emollient fomentations, frequent immersion in warm water, but above all, throwing cold water over the legs and feet while the patient is walking barefooted on the cold floor: or if this prove ineffectual, the patient is next to be placed in a large tub, and a pail of cold water thrown over the abdomen and thighs, which it is said will seldom fail to remove both spasm and costiveness. Another remedy adapted to the re-

moval of constriction of the intestines, is the infusion or smoke of tobacco, used in the form of clyster, as directed in bilious colic. At the same time that the foregoing means are diligently employed, the back, spine, and limbs, should be strongly rubbed with the volatile liniment, or camphorated spirits.

In the colica pictonum, occasioned by lead, alum in doses of fifteen grains every four, five, or six hours, has been administered by Dr. Percival; but others affirm that a more powerful remedy is to be found in blue vitriol. Eight grains of it being dissolved in half a pint of water, two or three table-spoonfuls are to be taken fasting, for nine successive mornings. For the first four or five days, this medicine discharges much vitiated bile both ways; but the evacuation of it lessens by degrees, and great relief is obtained. The most efficacious medicine in this disease is calomel, either by itself as a cathartic, or combined with opium. About eight or ten grains of the former, with one of the latter, given every twelve hours, will in general produce the happiest effects. Dr. Joshua Fisher, an eminent physician of Beverly, administers opium in doses of from fifteen to forty grains, and has not, as he affirms, for many years past seen a single case of this distressing disease, which has not yielded to its efficacy in about an hour; but this bold practice is not to be resorted to by inexperienced physicians.

Dr. James Mann, in the N. E. Journal of Medicine and Surgery, Vol. XI. states several cases of this affection which had fallen under his observation, in which he found large doses of opium indispensably necessary to ease the pain, after which the most active cathartics were required to rouse the torpid state of the intestines, and procure the alvine evacuations. In one case, from seventy to one hundred grains of sub-muriate of mercury were given, and followed by from four to twelve ounces of castor oil. He states, that unless purgatives are repeated every day for about a week, a recurrence of the pain will certainly take place, and a permanent cure cannot be effected. In one case in which he was consulted, calomel was administered in doses of one drachm, until one ounce was taken in the space of thirty-six hours, and in another, six drachms were given, and it is remarkable that both patients recovered without any unpleasant effects from the large quantity of calomel required to remove the constipated state of the bowels.

During the use of these remedies, the patient's diet ought to be mild and simple, consisting of broth made of lean meat, oatmeal gruel, rice, panado, and arrow root.

When the violence of the disease has subsided, recourse must be had to the Peruvian bark and bitters, with a restorative diet and proper exercise.

HYSTERIA.

Those women who possess great sensibility of constitution, and who are frequently liable to obstructions of the natural sexual evacuation, are in general the subjects of hysteric complaints. It generally commences between the age of puberty and thirty-five, and is of all disorders one of the most various in its appearances. The disease generally begins with a sense of fulness, and rumbling noise in the bowels, attended with a sensation of a ball rolling round in the abdomen, ascending to the stomach and throat, and inducing a sense of weight and anxiety, nausea and vomiting; when this peculiar sensation arises to the throat, occasioning a sense of suffocation and difficulty of breathing, or swallowing, it is called *globus hystericus*. The extremities are cold, but sometimes attended with a sense of heat in different parts of the body; the colour of the face is variable, being sometimes flushed and sometimes pale; there is a pungent pain in the head called *clavus hystericus*, swelling of the ancles, flatulence, spasms, lassitude, and palpitations; the eyes are dim and suffused with tears. The fit sometimes ceases after these symptoms have continued for a certain time, but more frequently the patient falls into a fainting fit. Sometimes she beats her breasts violently with her hands; at others, she lies quite motionless, as if in a profound sleep. The whole body is frequently agitated with convulsions, and the disease assumes the appearance of epilepsy; sharp pains likewise attack the head, the loins, back, and bladder, and a very copious discharge of limpid urine takes place, which is one of the most characteristic signs of the disease. The mind, as well as the body, is greatly affected, and the patient is liable to sudden transitions from laughing to crying. The patient usually continues in this condition for some time, when at length the heat returns to the extreme parts; a gurgling noise arises in the bowels, and as if

awaking from a profound sleep she regains her voice, sense, and motion; but complains of a heavy pain of the head, and a general weakness. The paroxysms are considerably varied in different persons, in having more or fewer of the above symptoms, and in the violence and duration of the fit.

At the close of the paroxysm, a large quantity of wind is belched from the stomach, with frequent sighing and sobbing, and when she recovers sense and motion, she has no recollection of what has passed during the fit. Sometimes there is little or no convulsions, and the fit seems to consist of a distressing hiccough, threatening suffocation, and this sometimes continues two or three days. This disease affects chiefly women of delicate habit, and whose nervous system is extremely sensible, and in whom a paroxysm is easily excited by passions of the mind, as sudden joy, grief, fear, &c. Although hysteric fits may be exceedingly alarming to by-standers, they are seldom accompanied with danger, and never terminate fatally unless some other disease be induced.

The hysteric affection will be distinguished from the epilepsy, by the globus hystericus, by the the great flow of limpid urine, by the sudden transition from laughing to crying, and by the anxiety and fear of death preceding and succeeding the paroxysm.

During a hysteric paroxysm, if the patient be in a plethoric state, blood-letting will be serviceable, but if the disease has been of long continuance, especially in delicate habits, this operation generally proves injurious. The nostrils should be stimulated by the application of volatile spirits, singed feathers, vinegar, &c. and cold water, with volatiles and æther, administered internally, as soon as the patient can swallow. Cold water and vinegar may be sprinkled on the face and breast, and free cool air should be admitted to the patient, and her feet and legs placed in warm water. An antispasmodic clyster of the infusion of skunk cabbage root, or of opium, will be beneficial; but a clyster of cold water, it is said, relieves the hysteric symptoms instantaneously. With the view of a radical cure, particular attention must be paid to the state of the menstrual evacuation; if deficient, it ought to be promoted; if too copious, it should be restrained.

It is the opinion of Dr. Hamilton, and he is supported by other authorities, that this disease does not proceed from the uterus, as formerly supposed, but from some morbid affections of the stomach and alimentary canal. The leading indications, therefore, are

to evacuate by the frequent exhibition of cathartics, but these are to be preceded by the employment of the lancet, where a fulness of the vessels requires the depleting operation.

Our great object should be to strengthen the nervous system by the employment of Peruvian bark, myrrh, and chalybeates, together with the cold bath duly persisted in. It will be advisable, occasionally to administer medicines adapted to allay irritation. Take the tincture of asafœtida, and of castor, each two drachms, spirits of lavender compound, four drachms: a tea-spoonful or more of this mixture may be taken in a cup of valerian or motherwort tea, on the approach of any languor; and at bed time a moderate dose of laudanum may be added for the purpose of composing any nervous agitation and procuring sleep. The volatile tincture of valerian is also a valuable medicine. It frequently happens that hysteric women are afflicted with cramps in various parts of the body, which are most apt to seize them in bed, and when asleep. In these cases the patient's feet should be immersed in warm water, but when the spasms are violent, and of some duration, we must have recourse to opiates, skunk cabbage, æther, and camphor, internally, and to the warm bath, and frictions with anodyne liniments, externally. Cramps in the legs may be prevented, and sometimes removed, by the application of tight ligatures, or by the exercise of walking. The volatile spirit of sal ammoniac has a happy effect in relieving cramps of the legs; a tea-spoonful may be taken in a glass of water every few hours.

Hysteric women will experience great advantage by a proper attention to the mode of living, and to their conduct in life. The diet best adapted to this complaint, consists of milk and vegetables, but those who have been accustomed to a more generous diet, may sometimes indulge in light animal food; the most proper drink is water, with a little red wine or brandy; strong tea should be particularly avoided. Cold bathing, with proper exercise, and early rising, as they tend to brace the nerves, and invigorate the system, should be enjoined as of great importance. The mind must be constantly preserved in a calm serene state, and every thing tending to irritate the spirits, or ruffle the passions, ought to be most scrupulously guarded against.

It is with much satisfaction that I introduce on this occasion a domestic medicine, the valuable properties of which are not generally understood; the skunk cabbage, (pothos fœtida). I can as-

sert from my own recent experience, and from trials in the hands of others, that it has displayed antispasmodic powers, surpassing most other medicines of that class. In several cases of obstinate hysteria and convulsions, this medicine alone has effected permanent cures, or afforded essential relief. It is free from the heating and constipating qualities of opium, and the vast expense of musk, and may be given to any extent without producing unpleasant effects. The proper dose of the dried root in powder, is half a drachm thrice in a day, or of a strong infusion, a table-spoonful every two or three hours. During every stage of nervous and hysteric complaints, and in cramps and spasms, this medicine is strongly recommended as a valuable substitute for the various antispasmodic remedies commonly employed. See American New Dispensatory.

A young woman, about eighteen years of age, was harassed by severe convulsive and hysteric paroxysms, almost incessantly, insomuch that her friends estimated the number at seven hundred in the course of a few weeks; her abdomen was remarkably tumefied and tense; and there was a singular bloatedness of the whole surface of her body, and the slightest touch would occasion intolerable pain. At length her extremities became rigid and immoveable, and her jaw was so completely locked, that she was unable to articulate, and liquids could only be introduced through the vacuity of a lost tooth. She had been treated with a variety of antispasmodic and other medicines, by an experienced physician, without relief. Having prepared a strong infusion of the dried root of skunk cabbage, I directed half a tea-cup full to be given every few hours, without any other medicine; the favourable effects of which were soon observable, and by persisting in the use of it about ten days, the muscular contractions were removed, the jaw was relaxed, and her faculty of speech and swallowing, with the use of all her limbs were completely restored. Another young woman had been exercised with the most distressing paroxysms of hysteria for several days, without obtaining relief by the medicines prescribed; when the skunk cabbage infusion was so successfully directed, that her fits were immediately arrested, and in a few days a cure was completely effected. The brother of this patient was seized with violent convulsions of the whole body, in consequence of a cut on his foot; the skunk cabbage was administered, and he was speedily restored to perfect health. Since

writing the above, a woman was affected with violent spasmodic pains, twenty-four hours after parturition; six doses of skunk cabbage entirely removed her complaints.

Ergot has of late succeeded in the cure of this disease. The following important case may be implicitly relied on. "A lady about forty years of age, of a gross habit, was afflicted with hysteric paroxysms which returned as often as once in twenty minutes. She took laudanum, asafœtida, æther, &c. till I despaired of success. I then gave her twelve grains of ergot in decoction, without her knowing it to be any thing different from what she had taken before. She immediately replied, 'that goes to the right place, that reaches the difficulty.' In about half an hour she had a slight return of the fits, upon which I repeated the dose; after this there was no further appearance of them. After her recovery I learned that she had been subject to this disease, and although she had applied to a number of the most respectable physicians, she had never found a *medicine* before which stopped the fits." See Appendix, Ergot.

RABIES, OR HYDROPHOBIA.

The animals particularly liable to communicate the rabid poison to the human species, are those of the genus *canis*, as dogs, wolves, and foxes: being those in which the disease is said to appear in the form of an original affection. But rabies has been received by a bite from cats, racoons, cows, swine, weasels, and even, as is said, from geese and hens, when in a state of madness.

The specific nature of this subtle poison has hitherto eluded all investigation; nor has experience proved more successful with respect to the remedy for this most formidable species of infection. It is nevertheless a point of high importance to ascertain with precision the symptoms which characterize madness in those animals, to enable us to guard against their fatal attacks.

For several days previous to the invasion of the disorder, the dog is observed to manifest a change in his natural manners; he grows dull and heavy, and shews an equal indifference to his master, and his usual meat and drink. He becomes solitary, and endeavours to hide himself, does not bark as usual, but makes a

murmuring noise, is peevish and easily offended. His ears and head hang down, and he walks as if overpowered with sleep, but in this stage he remembers and respects his master. A disposition to quarrel with all other dogs, is manifested early in the disease. He breathes thick and heavy, keeps his mouth constantly open, and hangs out his tongue; sometimes he walks slowly, as if half asleep, and then suddenly runs, but not always directly forward. At length he forgets his master, and will bite him if opportunity offers; his eyes look dispirited, dull, and full of tears, and red; his bark is hollow and hoarse, and his tongue of a lead colour. He now strays from home, and follows any path or road he happens to meet, but seemingly without purport or design. If he be confined in this advanced stage of the disease, he bites and gnaws every thing near him, is furious for a moment when approached; and his chops are covered with tough frothy saliva. He now grows faint, thin, and weak, often falls down, again rises, attempts to fly at every thing, and soon grows furious. This second stage seldom continues thirty hours, death by that time putting an end to the disease. He can swallow both solids and liquids during the whole disease, and having no aversion to water, he never endeavours to avoid it. In most instances there is a very treacherous disposition manifested in rabid dogs; if called, they will come, wag their tails, and show every mark of fondness, and seem pleased with attention; but on a sudden they will turn and give a bite. It is also important to know, that many instances have occurred of dogs having given a fatal bite, while they were in apparent health, even many days before they discovered a single symptom of indisposition.

The symptoms of rabies in dogs and other animals commence sometimes in ten or twelve days, but more commonly between three and eight weeks after having received the bite, and they seldom survive longer than four or five days after the first symptoms appear, and we believe it may be affirmed that no instance of recovery among rabid animals has ever been known.

Innumerable are the remedies which have for ages past been administered with the view of eliminating or counteracting the poison, or obviating the constitutional affection after a bite has been given. But on close investigation, they have been found totally inadequate to the purpose, and the most of them calculated rather to excite contempt than confidence. In fact, when once

this dreadful poison has been communicated by a bite, it is hardly to be expected that its fatal effects can be prevented by internal medicines alone. The most effectual preventive remedy yet discovered, consists in cutting out all the muscular parts with which the dog's teeth have come in contact, or to which the virus may have penetrated. The earlier the operation is performed, and the more completely it is effected, the greater will be the chance of security. But when insuperable obstacles prevent the employment of the knife, recourse must be had either to the application of the hot iron, or to some liquid caustics. A strong solution of the lunar caustic, or the caustic vegetable alkali of the Dispensatory, or the aqua fortis, should be applied to every part of the wound, and the application must be repeated at various times during several weeks. When neither of the above caustics can be seasonably procured, some powdered quicklime may be advantageously substituted. In some instances, it may be necessary to dilate the wound in such a manner as to admit the remedies to every part into which the poison may have insinuated. In every instance, it will be advisable to convert the wound into a running ulcer, and to keep up a discharge from it during six or eight weeks. Either the caustics, the quick lime, or blistering flies, may be employed for this purpose. Another remedy of reputed efficacy, is the affusion of cold water to the wounded parts. The water must be poured forcibly over the surface of the ulcer, and continued daily, from the moment of the bite to at least thirty or forty days. A person having received a bite from a rabid animal, can scarcely be considered free from danger of an attack of hydrophobia in less time than one year.

It is a point altogether problematical how long time the poison remains in the bitten part; on some occasions it is not absorbed into the system during several weeks or months, as supposed. It will therefore be a wise precaution, that whenever pain, or any uneasy sensation, is perceived in the wound, the application of the knife and the caustic remedies be made without delay. In fact, when it is ascertained that the animal which inflicted the bite was actually in a rabid state, even though the wound may have healed, the only security consists in a thorough extirpation of the wounded part; the knife should be carried even deeper than the dog's teeth have penetrated, and as the knife first employed may get tainted with the virus, the operator should have several at hand to be used

in succession. This operation should be followed with the most effectual ablution of the parts with a solution of the volatile alkali in water, in the proportion of one part of the alkali to four of water, and the same should be injected into the wound with a syringe. The nitrate of silver, or other caustics, should next be applied, and a free suppuration promoted. The same process may be persevered in for a considerable time according to existing circumstances. With respect to the internal administration of remedies preventive of hydrophobia, very little dependence is to be placed on any class that can be selected. The volatile alkali in the liquid form, a tea-spoonful three times a day, and a course of Plummer's pills to the point of ptyalism, persisted in for several weeks may prove an eligible prophylactic course.

If our utmost efforts to destroy the poison in the first instance, should unfortunately fail, it is not improbable that within a period of from ten days to six or eight weeks, or it may be extended to a year or more, after the bite, the miserable patient will be seized with that deplorable malady called *hydrophobia*. But amidst the horrors experienced during a period of painful suspense after having received a bite, there is a source from which the sufferer may derive considerations of a soothing and consolatory nature. Numerous writers of the most established credit have recorded, and experience fully verifies the fact, that a large proportion of persons bitten by dogs actually mad, are never affected by the disease, even though they dispense with preventive remedies. These exemptions, however, ought not to induce a security which may prevent every precaution being taken to avert the awful calamity. From the consideration that one even in twenty may be the victim, it would be the height of indiscretion and folly, not to resort to the most judicious and reputable source for early advice and assistance.

The approach of the disease is known by the part bitten becoming painful, hard, and elevated, attended by a peculiar sense of pricking and itching at the part, and pain resembling rheumatic pain extends into the neighbouring parts, and towards the throat. There are more general pains of a flying convulsive kind, which affect the patient in the neck, joints, and other parts, and a dull pain seizes the head, breast, belly, and along the back-bone. A lassitude and a vertigo soon come on; the patient is melancholy, mutters, is forgetful and drowsy; his mind seems disordered,

his temper irritable and irregular; his slumbers disturbed, and convulsive agitations immediately follow his waking. His eyes are watery, his aspect sorrowful, the face pale and contracted; sweat breaks out upon the temples, an unusual discharge of saliva flows from the mouth, though the fauces are dry; the tongue becomes foul, and the breath occasionally fœtid. There is a straightness and sensation of choking, and a horror and dread at the sight of water and other liquids, together with tremours and a loss of appetite. The person is, however, capable of swallowing any solid substance with tolerable ease; but the moment that any thing in a fluid form is brought in contact with his lips, or even presented to his view, it occasions him to start back with much dread and horror, although he labours, perhaps, under great thirst at the time.

From the beginning there is a peculiar stricture and heaviness on the breast, a struggling, as it were, for breath, a sighing, a nausea, and often a bilious vomiting. This oppression, of the præcordia is one of the constant symptoms of the disorder; it begins, increases, and ends with it. The second stage advances and a fever ensues, which at first is mild, but attended with momentary horrors, though there is sometimes little or no fever; sleep is lost, the mind is more and more disturbed, a delirium approaches, and an aversion to liquids, to polished bodies, and even to light, rapidly increases. In some instances the peculiar symptom of the disease, the dread of water, comes on all at once, and augments so visibly that on the sight of any liquid, of a looking-glass, or anything clear or pellucid, a horror seizes the patient, and if he strive to drink, spasms, anxiety, and loss of strength follow. The air, although really warm, is very distressing to the patient, and the slightest touch or motion, and the least sound is offensive and painful. The patient mourns bitterly, and at times, loses all knowledge of his intimate acquaintance. But reason returns at intervals, and he laments his own calamity; thirst excites in him a desire to drink, but he strives in agony, and in vain, to swallow, and soon sinks into the most affecting despondency. He desires his friends to keep at a distance, and it is supposed that he feels an inclination to bite, and by some the greatest efforts are made for that purpose. There is constantly a great flow of viscid saliva into the mouth, which is exceedingly troublesome to the patient, as it has the same effect upon the fauces that other liquids have. At length the fever and thirst increase; the eyes are bright and furious; the urine is

high coloured, acrid, and in small quantities; the tongue hangs out, the mouth foams, he gnashes his teeth, his pulse throbs and strength fails, cold sweats come on, the tightness of the breast increases, and the miserable patient expires in spasms, often losing the difficulty of swallowing liquids for many hours; so that the dread of water is by no means a pathognomonic symptom.

I have now described the symptoms of this disease as they occur in general, but they are so various that they cannot be enumerated, for we seldom read of two cases of hydrophobia which do not differ very remarkably in this respect.

Although medicine has hitherto proved ineffectual in almost all cases where the disease had fully established itself, yet humanity demands every possible aid and exertion in favour of the unfortunate sufferer. Death in its most awful form closes the scene most commonly on the third or fourth day after the appearance of the symptoms.

The remedies heretofore employed for the cure of canine madness, are blood-letting and the antiphlogistic course; opium and antispasmodics of every grade and description; the cold and warm bath, blisters, alkaline salts, the different preparations of mercury, antimony, arsenic, zinc, and copper. By none of these, either singly or combined, has this formidable disease, in its genuine character, been vanquished in a single well attested instance. No remedy has ever been more amply or more universally experimented at various periods than that of blood-letting, and its failure has been no less notorious, than its trials have been numerous. It is not to be dissembled however that two or three authenticated instances of cures by means of copious blood-letting and mercurial frictions at the same time, have recently been announced. In two successful cases by Dr. Shoolbred, of Calcutta, venesection was resorted to immediately on the disorder becoming apparent, until faintness was induced, and the operation was repeated at intervals as long as firmness of arterial action or the symptoms of hydrophobia remained. In another case the patient was bled by a Mr. Tymon, surgeon in the British service, and the bleeding continued until scarcely a pulsation in either arm was to be felt; and to this, the cure is chiefly attributed, although his head was blistered, and mercury both internally and externally was very liberally applied. The curative plan in hydrophobia therefore, should be prompt and decisive; if bleeding is relied on, let it be from a large orifice, at

the earliest stage of the attack, and carried to the utmost limits of safety; and the boldest administration of mercury should follow the operation. Twenty or thirty grains of calomel, repeated at short intervals, and half an ounce of the strong ointment, rubbed in the throat and chest three times a day, until symptoms of salivation commence, will probably be a justifiable practice. But the mode of inducing a speedy salivation recommended by the late Dr. Darwin, may be preferred. He directs three grains of corrosive sublimate to be dissolved in one ounce of rectified spirit of wine; half of which is to be taken undiluted; it produces a copious salivation for an hour and half, or longer, during which, the patient spits a quart. This is to be repeated according to its effect, and a dose of Glauber's salts should be taken the day after the operation. The atropa belladonna, is supposed by some German authors to possess properties eminently adapted to the cure of hydrophobia. Besides a remarkable narcotic power, it is said to be particularly useful in promoting the secretions by sweat, urine, and also by saliva. It is highly probable therefore, that belladonna may prove of real efficacy in the present disease. The dose is from two or three to six grains twice or thrice in a day. Opium has been administered in cases of hydrophobia to the utmost possible extent, but it has uniformly failed to afford relief and respite. In the opinion of Dr. Thomas, however, when the patient loses the power of swallowing, introducing opium freely into the system by means of friction, appears to be a very eligible plan. Indeed, as the throat appears in this disease always to be affected with spasmodic contractions, it would seem that no remedy we can employ, promises better effects than the rubbing in, and particularly about the throat and chest, opium in the form of liniment or ointment. If the tincture of opium be conjoined with camphorated spirit and aqua ammonia, these will probably assist its operation. When a diaphoretic is required, the compound powder of ipecacuanha, with the addition of the volatile alkaline salt, will be the preferable preparation. The sponging the body freely with warm olive oil, and pouring repeated doses of it forcibly down the throat, has been recommended as a successful remedy in hydrophobia.

As the canine virus probably lies dormant in the bitten part for a considerable length of time, it is a point of the greatest importance to pay proper attention to the state of the original wound

in this stage of the disease. If it has been suffered to heal, the cicatrix must be immediately opened afresh, and spirit of turpentine, aqua fortis, or some other stimulating or caustic medicine should be applied to excite inflammation and suppuration. This may be of great utility even after the symptoms of hydrophobia have commenced. Newspaper intelligence has lately been received from Europe, and it appears to be well authenticated, that in two instances, hydrophobia has been successfully treated by the use of vinegar, a pint of which was given morning, noon, and night. This may prove a discovery (although not new) of the greatest importance, and as the experiment will be a laudable and a harmless one, it ought to be tested on every occasion that may be presented.

I must not omit to mention, that one case of hydrophobia has been promulgated from the most respectable authority, in which a cure was effected by the severest operation of galvanism.*

It now remains to suggest the requisite precautions relative to the management of the hydrophobous patient, so as to avoid any ill consequences from a bite or contact of saliva. Should danger become apparent during the furious stage of the disease, the patient ought to be so confined, either by a straight waistcoat, or other means, as to prevent injury to himself or attendants. It would also be particularly proper to avoid the saliva coming in contact with any part of the body; and with a view of annihilating every source of apprehension, it would be advisable to bury in the earth, all such clothes as have been in use, and are contaminated with the saliva, as a small quantity of it applied to a part where the skin is broken, might be productive of disastrous consequences, as exemplified in the following case.

Dr. Henry H. Childs, of Pittsfield, while attending a young woman labouring under hydropbobia, received accidentally by her nails, a scratch on his hand, which was then covered with saliva fro n her mouth. In about ten days he began to feel some indisposition, and the alarming symptoms of hydrophobia rapidly progressed till his situation became extremely hazardous. After a confinement of thirty days, and pursuing a very severe course of mercury both internally and externally, the disorder was subdued and he gradually recovered. The reader is referred for a particu-

* Medical and Chirurgical Review, Vol. X.

lar detail of this case, and for a mass of information relative to the subject, to "Observations on Hydrophobia," by the author of this work, published in 1812.

In Russia several articles are held in estimation, both as preventive and curative remedies, with whose efficacy we are unacquainted. The root of alisma plantago is given in doses of from 20 to 24 grains every two hours. The genista to the quantity of half a drachm three times a day, together with a decoction of the same plant. It is in Russia also, as we understand, that the doctrine is prevalent that hydrophobia is a local disease seated in the glands of the mouth. Small tumours or blisters make their appearance under the tongue about the time of the approach of the hydrophobic symptoms. These tumours should be opened or removed by the knife or caustic, and this is affirmed to prove an infallible remedy. The degree of confidence to be placed in this statement is not satifactorily ascertained, as the accounts published have been contradictory.

Dr. Nathaniel Miller has lately experienced the efficacy of Dr. Fowler's arsenical solution in several cases of tetanus and other spasmodic affections, and it should be strongly recommended for trial in every case of hydrophobia, and that the result may be promulgated. The proper dose is ten drops repeated every half hour until relief is obtained.

The fact is well established that the symptoms of genuine rabies canina may arise in the system from other causes than a bite from a rabid animal. Dr. Rush has produced ample testimony that spontaneous hydrophobia has frequently occurred, in some acute fevers, from topical inflammation of the thorax or neighbouring parts, histeria hydrocephalus and tetanus. It is said to have supervened also to a phrenitic attack, and to have proceeded from the bite of epileptic patients, and from a bite from persons in a violent fit of passion. Inflammation of the stomach has been accompanied with spontaneous hydrophobia, one example of this nature fell under my own observation a few years since in a lady who ultimately recovered.*

"Dread of rabid madness has been so great in persons bit by a dog supposed to be mad, as to induce delirium and symptoms of hydrophobia, which seemed likely to terminate fatally; when the

* See a detailed account of this case in New England Med. Journal, vol. I.

sufferers have been suddenly restored to health on ascertaining that the dog was not mad."

The Duke of Richmond, late Governor of Lower Canada, having cut his face while shaving, lifted a small family dog to lick off the blood, when unfortunately his Grace received a bite from the animal, on his chin. Five months after he was suddenly seized with hydrophobia, venesection gave some momentary relief, but he died on the third day of the attack, August 28th, 1819.

INCUBUS, OR NIGHT-MARE.

The night-mare attacks a person during sleep, and when he lies on his back, particularly after eating a heavy supper. There is a sensation of a great weight, or oppression about the breast and stomach, and is generally accompanied with frightful apprehensions. The person groans, and sometimes cries out and makes ineffectual efforts to speak. In some instances he imagines himself engaged with an enemy, and in danger of being killed, and attempts in vain to make his escape. In others, the patient fancies himself falling over a precipice, and the horror of being dashed to pieces suddenly awakes him. This is a nervous affection, and arises chiefly from indigestion and oppression of the stomach, in consequence of eating a heavy supper just before going to bed. Wind in the stomach is also a very frequent cause of this complaint. Deep thought, anxiety, and a sedentary life may produce the night-mare. When indigestion, or any weakness of the stomach prevails, a course of tonics, as advised in other nervous affections will be highly necessary. In every instance the cause which gives rise to the complaint must be carefully avoided, especially flatulent or indigestible food, and heavy suppers late at night; let him preserve cheerfulness of mind, and sufficient exercise through the day, and at night take a glass of brandy or peppermint water, which is better, to promote digestion and obviate flatulency.

MELANCHOLIA AND HYPOCHONDRIASIS.

The diseases thus denominated are so closely allied, that it is difficult by any description to draw the line of distinction correctly. One distinctive mark however, is, that dyspepsia is commonly at-

tendant upon hypochondriasis, but is absent in cases of melancholia. This last affection is in general the incipient stage of, or is itself a less degree of madness, and the highest degree of hypochondriasis. Each passes gradually into the other and they all often at last terminate in alienation of mind.

Hypochondriasis is chiefly incident to persons of a melancholic temperament, of a studious and sedentary life, especially such as have indulged in grief and anxiety, and are advanced above the middle age. It is sometimes known, by the name of spleen, or low spirits, or the vapours, as there is commonly a peculiar depression of spirits, accompanied with absurd and ridiculous fancies. The mind of the patient is constantly disturbed with imaginary evils and suspicions, and a strong apprehension of death from the slightest cause, may be regarded as characteristic of the disease. The patient is frequently troubled with a spasmodic constriction of the throat, sour belchings, and vomitings of viscid phlegm, of acrid corrosive matter. He complains of languor, listlessness, or want of resolution and activity, coldness of the skin, and disposition to seriousness, sadness, timidity, and gloominess. These symptoms are accompanied with spasmodic pains under the short ribs of the left side, and sometimes with a swelling of those parts, attended with flatulency, indigestion, watchfulness, palpitations of the heart, and generally a costive habit. But it would occupy many pages to enumerate the long train of nervous symptoms which sometimes harass the miserable hypochondriac.

The hypochondriac disease may be occasioned by long and serious attention to study, indolence and protracted grief, long continued evacuations, obstructions of some of the viscera; high and full diet, or crude flatulent unwholesome food, with irregularity and intemperance, by which the stomach becomes loaded with indigestible crudities and viscid mucus. This disease, however distressing to the patient, and embarrassing to the physician, is seldom attended with dangerous consequences. The cure depends less upon medicine, than on the judicious management of the mind which requires the utmost address, as those patients are capricious and irritable in the extreme; the mind must be diverted from desponding and ill grounded apprehensions, by inviting to such agreeable amusements, and cheerful company, as will engage the attention to other objects than his complicated, and often, imaginary feelings. In order to gain his

confidence, and to flatter his hope, we ought to attend to his complaints as of real existence, and to change his medicines from time to time, as often as he expresses much disappointment in his expectations of relief. Every cause of anxiety and fatigue must be studiously avoided, or remedied, moderate exercise on horseback, when convenient, should be uniformly persisted in, that new and varied scenes may be presented to his view. The reading of entertaining books will also be useful in assisting to divert the mind to different objects. A proper diet constitutes an essential part in the treatment of the hypochondriac, as well as the dyspeptic patient. In general, light animal food is what alone agrees with the stomach, in these cases; vegetables, and every thing of an acescent tendency are apt to generate crudities and flatulency. The drink should be old claret or Madeira wine, or occasionally a little brandy with water; but neither of these should be indulged in so freely, as to acquire an irregular habit. Strong tea and coffee, are to be avoided, as pernicious. Instead of these, cocoa, or chocolate, or infusion of chamomile, with some juniper berries, ginger, or mustard, should be preferred for breakfast.

The cold bath is to be regarded as a powerful assistant in the strengthening and tonic plan of treatment, in all nervous and hypochondriac cases. Sea bathing, when it can be obtained, should be preferred. It ought to be practised three or four times in a week, from March to November, and the most suitable time is either an hour or two before, or two hours after breakfast. In some instances where a rigidity of the solids prevails, the tepid bath will prove more beneficial than the cold bath; and the warm pediluvium will frequently prove serviceable. Another auxiliary highly conducive to recovery in nervous affections, is friction, which ought to be applied over the whole body with a coarse cloth, every night and morning, for a quarter of an hour at a time; this kind of exercise stimulates and excites the action of the extreme vessels, and has a peculiar tendency to invigorate the whole system. Much benefit may often be derived from a sea voyage and change of climate.

In regard to the medical treatment in the present disease, the first step is to clear the stomach and intestines of their acrid or viscid contents, by means of gentle emetics and purgatives, which may be occasionally repeated if found necessary. With the view of counteracting the effects of the prevailing acid or acrimonious

humours in the stomach, we are next to prescribe alkalies and antacids, as in dyspepsia. The salt of tartar, sal soda, or sal æratus, mixed with some mucilage, should be exhibited in their proper doses several times in a day, and the absorbent powders, as chalk and magnesia, are well adapted to correct the prevailing acidity; about ten grains of rhubarb with a drachm of calcined magnesia, will answer the desired purpose of a gentle laxative to be taken occasionally; but in a torpid state of the bowels, three or four grains of calomel may be added to advantage. The elixir proprietatis will be found useful as a warming invigorating stomachic laxative. After the stomach and bowels have been properly evacuated of their impurities, recourse must be had to those medicines which are best adapted to the purpose of strengthening the alimentary canal, and promoting the secretions. A plaster of Burgundy pitch to the stomach and abdomen, will be beneficial, but our chief dependence must be in the employment of chalybeate medicines, and the form of Griffith's myrrh and steel mixture is excellently adapted to the purpose of corroborating and strengthening the stomach and digestive organs, and is preferable to Peruvian bark in torpid habits. If antispasmodics should at any time be required, the skunk cabbage root, as directed in hysteria, may be employed. Such is the capricious and fickle temper of hypochondriac patients that they become dissatisfied and impatient, unless they are liberally supplied with medicine; and we are often obliged, in compliance with their whims, to vary our prescriptions, and to direct palliative remedies; among those most commonly employed, are æther, musk, asafœtida, castor, camphor, valerian, volatile salts, salt and oil of amber, and opium. From among these the prescriber may make a selection, but in regard to opium, it should be resorted to on urgent occasions only, lest the patient become addicted to a practice which can never be relinquished. Indeed those who accustom themselves to a regular use of this drug, ought to be apprised, that by taking about two ounces of lemon juice, or strong vinegar with each grain of opium, the uneasy sensation which the medicine often occasions, and its tendency to induce constipation, will be in a great measure obviated. An infusion of the tincture of hops will, in some constitutions answer the same purpose as opium.

Wind in the stomach and bowels proceeding from a want of tone or vigour, is peculiarly incident to all nervous patients, and

greatly contributes to aggravate their distress. This complaint is to be relieved by carminative medicines, and by such as have a tendency to restore the tone and vigour of the alimentary canal. When the stomach is empty, the eating a dry biscuit will often afford relief. The carminative medicines most in repute, are asafœtida, elixir vitriol, æther, and opium, to which may be added acorus calamus, the cow-parsnip, and the seeds of anise, caraway, coriander, and juniper berries. Æther may be given in the quantity of two tea-spoonfuls, or more, in a cup of cold water, and about fifteen drops of laudanum may be added, or given separately, when required. The tincture of castor and spiritus nitri dulcis, to either of which laudanum may be combined, will generally afford much relief; and, in fact, æther and laudanum are superior to any other medicines in these cases, whether the flatulence be contained in the stomach or bowels. Some advantage may be derived from the application of the antihysteric or the stomach plaster, or from rubbing the anodyne balsam on the parts at bed time. When costiveness attends the complaint, four or five of the following pills will produce excellent effects. Take asafœtida, two drachms; socotorine aloes, salt of steel, and powdered ginger, of each one drachm; as much elixir proprietatis as will be sufficient to form them into pills. The tonic and chalybeate medicines mentioned in the preceding pages are to be advised, and active amusements and severe exercise, with temperance in eating and drinking, should be constantly practised.

Class VII.—CACHEXIÆ.

Order I.—MARCORES.

MARASMUS, OR ATROPHY.

This disease consists in a gradual wasting of the body, unaccompanied with any remarkable fever, cough, or difficulty of breathing; but usually attended with a loss of appetite and impaired digestion. It may be occasioned by too copious evacuations, deficiency of nourishment, unwholesome air, abuse of spirituous liquors, severe mental affections, and scrofulous obstructions of internal glands. This complaint is apt to seize young persons

of a delicate make and of rapid growth, before they arrive at mature age. In the beginning of this disease, the countenance is pale and squalid, the appetite loathes every kind of food, the patient is constantly languid, and inclines to keep very much in bed, the urine is often small in quantity and high coloured, sometimes pale and copious. This disorder is for the most part very difficult to cure, and often terminates in a fatal dropsy. We should attempt in the early stage to remove this complaint, by first administering a gentle emetic, and then occasional doses of rhubarb; and afterwards by restoring the tone of the solids, and improving the state of the digestive organs, by the use of tonic and stomachic medicines, combined as follows: take of gentian root two drachms, orange peel, half an ounce, Peruvian bark, one ounce; infuse them in a quart of white wine or pure cider for two or three days, and filter through paper. Three table-spoonfuls twice in a day is the proper dose for an adult, to which ten drops of the tincture of muriated iron may be added, or the patient may take from five to ten grains of the carbonate of iron twice in a day; or the myrrh and steel mixture, as directed in the Appendix.

If the disease depends on a weakness of the nervous system, as in the hysterical and hypochondriacal affection, the same plan must be pursued, to which may be added pills of asafœtida and castor. The diet ought to be of the most nutritive kind, and proper exercise and free air should not be neglected.

Atrophy in children is often accompanied with an enlargement of the glands of the mesentery, which is known by indigestion, costiveness, or purging, irregular appetite, flushed cheeks or a total loss of colour, impaired strength and spirits, and remitting fever. The abdomen is hard and tumefied and the limbs are emaciated. For the removal of the obstructions in the lymphatic system, and to effect a resolution of the indurated glands of the mesentery we must depend principally upon small doses of calomel and rhubarb, administered daily or every other day, until its good effects become evident. This course should be accompanied with antimonials, neutral salts, soap, and occasionally Dover's powder, with the tepid salt water bath, and the system is to be restored by a tonic course joined with daily frictions of the limbs and spine, and when we have been so fortunate as to remove the obstructions, the cold bath may be employed.

Order II.—INTUMESCENTIÆ.

POLYSARCA, OR CORPULENCE.

This, if not a disease, is a state of the system which is often attended with great inconvenience, and may lay a foundation for serious consequences. It is in some instances constitutional, but "independent of peculiarity of habit, it is frequently produced by a free indulgence of the appetite in the use of very nutritive food and fermented liquors, conjoined with an inactive life."

The bulk of the body has in some instances been enormous, having amounted to from five to six hundred pounds. "Bright, of Malden, England, weighed 728 pounds; Lambert, of Leicester, 739 pounds, a little before his death, which was in the fortieth year of his age. The German journals give examples of men who weighed 800 pounds."*

"When a person of a constitution which is predisposed to obesity is enabled to indulge in good feeding, leads a calm, indolent life, free from mental inquietude, and sleeps much, corpulence generally ensues. The causes of corpulence being thus well understood, the means of prevention and removal are not less obvious. In this the patient must, in a great degree, minister to himself; the prevention and cure will depend upon the proper regulation of his diet, exercise, and sleep. Medicine will only be necessary to obviate particular symptoms, or diseases arising from or connected with it.

The disease frequently, however, steals on so imperceptibly, that it becomes inveterate before people begin to think of pursuing any means for obviating it.

To get rid of too much fat without any injury to the constitution, the patient should in a very gradual manner diminish the usual quantity of his aliment, taking less nutritious substances for food; he should drink as little as he can with ease to his sensations, and particularly of malt liquors; he should use regular and daily active exercise, abstain from suppers, take short rest, sleep but few hours, and rise early every morning. To assist these means and compress the bowels, (increasing their absorption, probably, thereby,) he may put a proper bandage round the belly, so that

* Dr. Good.

it can be tightened or relaxed with ease. An under waistcoat, with two or three rows of buttons, will answer this purpose very well. By a rigid pursuance of these means for a due length of time, I have no hesitation in affirming, that the most corpulent and unwieldy man or woman may be reduced within moderate bounds, with an acquisition of health, strength and vigour, both of body and mind.

"It will, however, be most prudent in all cases to reduce obesity in a gradual manner, which may be done effectually by keeping the eyes open, the mouth shut, and the legs in motion; or in other words, by eating and drinking sparingly, by sleeping little, and taking much active exercise.

"Vinegar and lemon-juice are too frequently used by young women to reduce corpulence; but an excessive use of acids is apt to destroy the digestive powers, and in the end to bring on a train of dyspeptic complaints."*

EMPHYSEMA.

"This disease consists in a collection of air in the cellular membrane. In general it is confined to one place; but in a few cases it spreads universally, over the whole body, and occasions a considerable degree of swelling. It sometimes arises spontaneously, which is, however, a rare occurrence, or comes on immediately after delivery, without any evident cause; but it is most generally induced by some wound or injury done to the thorax, and that affects the lungs; in which case, the air passes from these through the wound into the surrounding cellular membrane, and from thence spreads sometimes over the whole body.

"Emphysema is attended with an evident crackling noise, and elasticity upon pressure, and sometimes with much difficulty of breathing, oppression and anxiety.

"We are to consider it as a disease by no means unattended by danger; but more probably from the causes which give rise to it, than any hazard from the complaint itself.

"The intentions of cure which we should have in view, must be, first, to remove the cause of the disease, secondly, to relieve the urgent symptoms, and, thirdly, to evacuate the collected air.

---

* Thomas's Modern Practice.

"To answer the first of these, the assistance of surgery will be necessary, as arising most commonly from a wound or other injury done to the thorax, which at the same time affects the lungs, as in the case of a fractured rib, the ragged edges of which penetrate the pleura and substance of the lungs, and thereby admit of an extravasation of air into the cellular membrane. In such cases the air is to be evacuated by scarifications into the cellular membrane in different parts of the body, as circumstances may require, assisted by proper pressure with the hand.

"Violent dyspnœa and anxiety are to be relieved by bleeding and laxatives; and the pain and uneasiness arising from the distention by relaxing applications to the skin, such as the unguentum cetarei, &c."

TYMPANITES.

This disease is a flatulent distention of the belly, and the wind is either pent up in the intestinal canal, or confined between the intestines and the membranes which line the muscles of the abdomen. In the former instance, the tumour of the belly is often unequal, and there is a frequent explosion of wind, alleviating both the tension and pain; but in the latter species the tumefaction is more equal, and the emission of wind, which is less frequent, affords not such evident relief.

This complaint is generally preceded by an unusual flatulency in the stomach and intestines; as the disease advances, there is a constant desire to discharge wind, which is attended with much difficulty, and affords but transient relief; there is at the same time costiveness and occasional colic pains. The abdomen soon becomes extremely swelled, which does not yield much to pressure, but is very elastic and sounds like a drum, and no fluctuation can be perceived. It may be distinguished from ascites by the tense feeling of the abdomen, by the quick reaction of the parts after removing the pressure of the finger, by the absence of fluctuation, by the frequent desire to belch, and by the urine being at first not altered either in quantity or quality.

In almost every instance, this proves an obstinate and dangerous disease, and the patient after long suffering, is frequently destroyed in consequence of a gangrene of the intestines.

With the view of a cure, the patient should abstain from all flatulent vegetables and fermented liquors. If much fever and a full pulse attend, it may be proper to bleed; the air in the intestines must be evacuated by mild laxatives joined with aromatics and the essential oils of anise and juniper; opiates and other antispasmodics must be administered; injections of the infusion or smoke of tobacco are particularly recommended. The abdomen should be frequently rubbed with stimulating liniments, and swathed with a flannel bandage; a blister, or bags of warm bran, sand, or salt, may also be applied; but to excite the action of the intestines, nothing is better adapted than snow or very cold water applied to the abdomen. The Peruvian bark and chalybeates should be given combined with carminatives and aromatics, such as the essential oils, elixir vitriol, ginger, and a little Geneva, or other spirits diluted with water. A clyster pipe should be frequently introduced into the rectum, and allowed to remain there for some time. When the air is known to be diffused in the cavity of the abdomen, relief, in desperate cases, is sometimes obtained by the operation of paracentesis or tapping; after which the system must be invigorated by gentle exercise, and the stomachic and tonic medicines already recommended. This is a disease of rare occurrence.

HYDROPS, OR DROPSY.

This disease consists in a preternatural collection of watery humours, either under the skin, or contained in some of the cavities of the body. When it occupies the cellular membrane, whether diffused over the whole, or a part of the body, it receives the name of *anasarca* or *leucophlegmatia;* when contained in the cavity of the breast, *hydrops pectoris*, or *hydrothorax;* when in the brain, *hydrocephalus internus;* if in the cavity of the abdomen, *ascites;* in the uterus, *hydrometra;* within the scrotum, *hydrocele.*

Hydrops Celluraris, or Anasarca.

The causes which give rise to dropsies are numerous, as excessive and long continued evacuations, especially copious bleedings and strong purgatives; frequent salivations; abuse of spirituous liquors; suppression of customary evacuations, as the menses and hæmorrhoids, scirrhosities of the liver, spleen, mesentery, or other

abdominal viscera; preceding diseases, as jaundice, diarrhœa, dysentery, asthma, intermittents of long duration, scarlatina, the striking in of eruptive diseases, and whatever disposes the system to a state of relaxation.

The *anasarca* commonly begins with a swelling of the feet and ankles, only in the evening, disappearing again in the morning; the swelling is soft and inelastic, and when pressed with the finger, will pit like dough, and the impression remains for some time. The swelling gradually ascends, and occupies the legs, thighs, trunk of the body, and sometimes also the head; the skin is pale and dry, there is great thirst, the urine diminished in quantity and high coloured; the body is costive, and in the advanced stages of the disease, a considerable degree of dyspnœa, cough, and a slow fever ensue.

In the first stage of dropsy in a majority of cases in this climate, high arterial action and inflammatory diathesis unquestionably prevail. This is clearly evinced by the hard, tense, chorded pulse, hot and dry skin, parched tongue, and excessive thirst. To these may be added sizy blood, and the great relief obtained by venesection and other depleting remedies. Who then will question the propriety, or even the absolute necessity of blood-letting in the early stage of dropsical affections? This was the practice of the able Professor Rush, and the experience of his successors affords ample attestation to its utility. Although this remedy is applicable to the different species of dropsy, it is not to be adopted indiscriminately under all circumstances that may occur. High arterial action and the ordinary signs of inflammatory diathesis, must be regarded as the correct criterion, and the discerning practitioner's only guide of safety.

When anasarcous œdematous swellings arise from any tumour compressing some lymphatic, or from a lymphatic vessel of a limb being cut, or in case of a weakness of a limb, in consequence of a sprain or bruise, the best method of cure will be to remove the tumour if practicable, to support the weakened vessels by a circular bandage or roller applied from the lower extremity upwards, and at the same time to employ frictions daily with a solution of crude sal ammoniac and a decoction of white oak bark, with forge water which is strongly impregnated with iron, and the cold bath may also be useful. In some instances of swellings of the legs, proceeding from a deficient action of the absorbents of the lower ex-

tremities, cures have been performed by an universal bath of warm sea water, or a substitute may be prepared by dissolving a proper quantity of salt in common water; the degree of heat should be moderate, and the immersion may be continued about half an hour every night for some time; the action of the vessels upon the surface must be excited by friction, diligently employed from below upwards, but never in a contrary direction. The water collected in the cellular membrane may often be drawn off by scarifying or puncturing the skin; the punctures must not, however, be made deep, nor near to each other, as gangrene is very apt to ensue in consequence of wounds made in dropsical cases, especially if in a very dependent part, the best preventive of which is embrocations with camphorated spirits, &c. to the scarified parts. Blisters and issues are of little use, and not altogether free from a dangerous tendency to gangrene, but the application of colewort and burdock leaves serves to moisten the skin and afford some relief.

In those cases of dropsy where there is an evident increased action of the arterial system, the diet of the patient should be mild, soft, and easy, but where debility chiefly prevails, a more generous, warming, cordial diet will be requisite, such as roasted meat, garlic, mustard, raw onions, &c. Daily exercise is of much utility in all dropsical cases, as it promotes absorption, and increases the excretions both by perspiration and urine; it ought to be practised to the full extent of the patient's strength, while the air which he breathes should be pure, warm, and dry, and flannel should be worn next to the skin.

That emetics are adapted to excite the action of the lymphatic vessels, and promote absorption of the effused water is universally agreed. These should be occasionally administered in both anasarca and ascites. But still greater advantages will be derived from the judicious employment of carthartics; among which it may with confidence be asserted that cream of tartar and jalap combined is of superior efficacy in the recent or inflammatory stage of dropsical complaints. The singular success of this remedy in the hands of many experienced and respectable physicians entitle it to the highest praise, and a steady perseverance in its use cannot be too strongly recommended. In one instance, even where venesection had been dispensed with, all the symptoms yielded to a few doses of cream tartar and jalap, acting powerfully both as cathartic and diuretic. From imprudent exposure, the disease re-

curred a few weeks afterwards, and was completely subdued by the same remedy alone. The proper dose of this medicine is one drachm of the tartar and fifteen or twenty grains of jalap, to be exhibited at proper intervals until a very copious evacuation is effected. Cream of tartar is also well established as one of the most efficacious diuretics in dropsical complaints. With this view, one ounce is directed to be dissolved in a pint of water, and this to be taken in divided doses during the day. Among the mild diuretics well calculated to subdue febrile action in this disease, is nitre in doses of twelve or fifteen grains three times in a day. Equally well suited to these views, however, is the dulcified spirits of nitre, if given in large doses, as a table-spoonful or half an ounce three or four times in twenty-four hours. This proves less offensive to the stomach than the nitre in powder, and produces favourable effects as a diuretic and in reducing arterial action. It is not in every case of dropsy that the antiphlogistic and depleting plan is to be long persisted in, nor will it on all occasions be deemed applicable at the commencement. When the system is reduced to a state of debility, and all symptoms of inflammatory action have subsided, recourse must be had to a more appropriate course of treatment. It is here that the more stimulating and drastic purgatives, as calomel, scammony, colocynth, gamboge, and even elaterium, evince their peculiar efficacy, and that digitalis and squills display their diuretic powers. In every species of dropsy, but more particularly hydrothorax, digitalis remains in high repute, and is the favourite diuretic in modern practice. The rules first directed by Dr. Withering respecting the administration of digitalis in dropsy, have from long experience and observation become established principles in practice. It is in cases of debility with feeble pulse, pale countenance, and coldness of the surface, and in these circumstances only, that digitalis is successfully administered. The dose in powder is from half a grain to two or three grains morning and evening, or one drachm of the dried leaves may be infused in eight ounces of water, and half an ounce of this given twice in a day, and gradually increased until the effects of the remedy appear. (See American New Dispensatory, article foxglove.)

Squills combined with nitre in the proportion of from five to ten grains of the dried root, and double the quantity of nitre, has been extolled for its efficacy in dropsical cases. The tincture of tobac-

co, in the opinion of some, is entitled to much confidence as a powerful diuretic in dropsical swellings. One article more deserving of notice is the oil of turpentine; this stimulating diuretic has produced favourable effects in doses of six or eight drops, but when exhibited in half ounce doses, undiluted, in cases of tape worm, it operates as a powerful carthartic, and it may probably in this manner prove also a valuable remedy in dropsies. But it is to be remarked, that diuretic medicines very frequently fail when given alone, but act with increased powers when administered in conjunction; thus, digitalis may be combined with cream of tartar, nitre with squills, and on some occasions, calomel may be added to each of these with the happiest effects. During the employment of diuretics, the patient should be enjoined to make a liberal use of diluting drinks, as barley water with cream of tartar dissolved in it, and a little brandy or Geneva, and sugar added; mustard whey, pure bottled cider and water, &c. The eupatorium purpureum, or trumpet weed is a domestic plant well deserving of attention as possessing diuretic powers. A strong infusion of the roots of this plant is much used by country physicians as a diuretic, and it should be recommended in every species of dropsy. Among the articles of domestic and popular use are garlic, water-cresses, and parsley. This last article was recommended by Dr. Rush, and is said to be a valuable diuretic. The seneka root is a favourite remedy with Dr. Milman, it operates, he says, by expectoration, urine and perspiration, and sometimes as an active purgative.

The atonic, or dropsy of debility, known by a weak and quick pulse, and by little or no preternatural heat or thirst, requires a method of treatment somewhat variant from that just described. It consists in the use of stimulating substances to increase arterial action, or to excite the urinary secretions. Here both the vegetable and metallic tonics claim our chief regard; they are stomach bitters, angustura, and Peruvian bark, with chalybeates and mercury; this last, when given so as to excite salivation, has often cured dropsical affections, and calomel combined with squills forms an excellent diuretic. Mercurial friction has sometimes been employed till the mouth begins to be affected, when a course of diuretics and tonics has completed the cure. Strengthening and tonic medicines must be administered during the employment of purgatives, and after the water is evacuated, that class of remedies is indispensably necessary in order to effect a permanent cure.

Among the expedients which Dr. Rush enumerates, as of salutary tendency in this disease, are hard labour, fasting or abstinence from food, and the passion of fear, each of which has been found to induce a sudden increase of the quantity of urine, by which cures were obtained. "In dropsical effusions, with debility, three or four drachms of the tincture of cantharides given in divided doses during the day will produce a powerful evacuation of urine." In old people this medicine is particularly indicated.

In the inflammatory affection of the lower extremities accompanying anasarca, Dr. Ferriar found much advantage from an infusion of digitalis used as a lotion. The steam bath or the vapour bath of Dr. Jennings applied to anasarcous swellings may tend to excite the lymphatics into action and thereby increase the cellular absorption, especially if assisted by friction. I have seen beneficial effects from the application of a laced stocking or flannel bandage to anasarcous limbs. In applying the bandage we must begin at the foot and carry it uniformly smooth and moderately tight to the thigh or hip, if this should be the occasion of a swelling in the abdomen, it must be loosened or removed. We must not omit to apprise the reader that the *Pyrola umbellata*, an American plant, possesses diuretic properties well deserving attention as a palliative in dropsy. Dr. W. Somerville, in a paper on this plant published in the fifth volume of the London medico-chirurgical transactions, seems to have fully illustrated the facts affording satisfactory evidence of the power of pyrola to promote the venal excretion, and to give relief to patients afflicted with dropsy in its various forms. A distinguished and remarkable instance presented by him is that of Sir James Craig, the British governor in Canada, who was affected with general dropsy, which in its progress assumed the forms of hydrothorax, anarsarca and ascites, and which was combined with different organic diseases, especially of the liver. After having tried with little or temporary success, almost every variety of diuretic and cathartic medicines and submitted twice to the operation of tapping, the patient had recourse to a strong infusion of the pyrola in the quantity of a pint every twenty-four hours. This gave relief not only on the first, but in the subsequent trials. It increased the urinal discharge, and at the same time produced an augmentation of strength, and an invigorated appetite. Several other cases of dropsy are detailed in which pyrola was administered by Dr. S. and by other practitioners with decided advantage.

The patients uniformly remarked that an agreeable sensation was perceived in the stomach soon after taking the pyrola, and this was followed in some instances by an extraordinary increase of appetite. Dr. S. considers it as having in this respect a great advantage over other diuretics, none of which are agreeable to the stomach and most of them very offensive to it.

Hydrops Cerebri, or Hydrocephalus.

Hydrocephalus is generally the disease of children, and is always attended with great danger. It has seldom been known to attack a child after it has arrived to the age of twelve or fourteen years, and most generally occurs in those families whose constitutions have a scrofulous taint. It is an affection which has been observed to pervade particular families, affecting the greater part of the children at a certain period of their life. It is one of the most insidious and fatal diseases to which children are subject; often commencing very suddenly and terminating fatally in a few days. But in some instances, its invasion is more gradual, and the child lingers for a long time, even for many weeks or months. It may originate from the various causes which induce dropsy in general, as acute inflammation, or from injuries done to the brain, by falls or blows, which have happened and long since forgotten, or from an original laxity or weakness of the brain, a thin watery state of the blood, a diminished secretion of urine, a sudden check of perspiration; and lastly, it may be the consequence of lingering diseases which have wasted and injured the system. This disease is distinguished into external, when the water lies upon the surface of the brain, and internal, when it is contained within its membranes or ventricles. Such is the ambiguity of the symptoms, that it is difficult to determine what are its real characteristics. The indisposition of the patient is sometimes attributed to teething, or a disordered state of the stomach and bowels; frequently it resembles the common febrile complaints of children. But it is often preceded by an unusual langour and peevishness, and the child frequently shrieks, and cries out suddenly without any known cause. A kind of slow fever appears, attended with a weakness of the arms and pains in the limbs, and often in the upper part of the neck. A vomiting of bile soon ensues, either with costiveness or diarrhœa, and the appetite is impaired. A pain in the fore

part of the head follows, and the child becomes heavy and dull, it moans, and often puts its hands to its temples, and is unable to sustain an upright posture. The pulse becomes irregular, but commonly much slower than natural. The faculties and senses are at length impaired, and the eyes are offended by the light ; the patient sees objects double, and becomes delirious. The limbs on one side are sometimes affected with paralysis, the pupils are dilated, and one or both eyes are drawn asquint.

As the disease advances, the pulse grows more frequent, the cheeks become flushed, the skin is hot, and startings and spasms occur. The stools and urine are now discharged involuntarily, the child lies in a comatose state, or the thread of life is severed by painful convulsions.

This delineation has been exemplified in three or four instances in my own family, besides many others in the compass of my knowledge. It is more easy to describe than to devise a remedy for this cruel disease.

It is only in the first stage of the complaint that we can prescribe with any hopes of success. On the first attack of the febrile state, we should bleed, apply leeches to the temples, and purge the patient with calomel and jalap. Should these prove insufficient to check the progress of the disease, we must have recourse to shaving the head, and apply a blister, and continue to give small but repeated doses of calomel as long as the discharges from the bowels are green or fœtid. The application of blisters should be repeated, and the discharge from them encouraged by dressing them daily with savin ointment.

Dr. Rush was decided in his opinion that hydrocephalus is of an inflammatory character, and that early and active bleeding is almost a certain remedy ; but in the hands of Dr. Parr, and some others, both the lancet and the means of topical bleeding have disappointed expectations. Professor Hosack, however, is very sanguine in his ideas, and I shall now cite his own language on the subject.

" *Hydrocephalus* in its acute form is an affection of frequent occurrence in this city, (New-York.) In three cases, for which I not long since prescribed, a cure was effected by blood-letting, active cathartics and blisters, all which were made use of during the inflammatory stage of the disease, before the symptoms of effusion had taken place in their greatest extent. In those cases

mercury was not administered except as a cathartic in combination with large doses of jalap. This fact reminds us of the remark of Dr. Rush, that in consequence of his unsuccessful use of mercury in dropsy of the brain, he has declined the use of that medicine altogether in this disease, except when combined with some purging medicine, and that he administers it in this form chiefly with the view of dislodging worms. Query—Does not mercury, by the excitement it produces, add to the inflammation which characterizes the first stage of hydrocephalus? Mercury, in my opinion, has oftentimes been the exclusive cause of this disease. Certain it is that dropsy of the brain has become of much more frequent occurrence, since the general, and I had almost said, the indiscriminate use of this metal, in febrile and inflammatory diseases."

From the well known diuretic and purgative properties of cream of tartar, in other species of dropsy, I should confide in the free use of this medicine alternated with small doses of tartarised antimony, to such extent as the constitution can bear.

In the last stage of the disease, a variety of medicines have been proposed to obviate its fatal tendency, but the case is in most instances, perhaps, hopeless, and nothing more can be expected than to palliate the distressing symptoms by the use of opiates in proper doses.

When the hydrocephalus is a family disease, it will be advisable by way of prevention, to have recourse to the cold bath, a light nourishing diet, and to every mean which will have a tendency to strengthen the constitution. Be careful not to heal too suddenly any eruption especially about the head, and be particularly attentive to the state of the bowels.

Hydrops Spinæ, or Spina Bifida.

This consists of a watery tumour of the colour of the skin, found within the spinal marrow, externally protruding in the course of the spine, and where it protrudes there is a considerable vacancy betwixt the two vertebræ, immediately above and below it. This disorder is congenital, and is most commonly formed in the vertebra of the loins, and is attended with a palsy of the parts below the tumour. It is supposed to be most frequently connected with a dropsy of the brain, and may be considered as an incurable malady. All remedies will be applied in vain, nor can it be desirable

to protract a life which must inevitably be wretched and miserable. Children on whom these tumours are found generally die in a few days after birth, though instances are not wanting in which life has been protracted for several months, when convulsions close the scene. If the tumour is opened a watery fluid is discharged, and death soon follows; or if left to burst, death is equally certain. The only remedy which has been proposed, is a process of pressure on the tumour with the view of promoting absorption of the deposited fluid; but it has seldom if ever been attended with success.

Hydrops Thoracis, or Dropsy of the Thorax.

In the *hydrothorax*, the water may be contained in one or both sacs of the pleura, or in the pericardium alone, and they are often blended together. It commences with a sense of oppression and tightness at the end of the sternum, with anxiety and difficulty of breathing, the patient being unable to rest in bed in a horizontal position, and is afflicted with sudden startings during sleep from a sense of immediate suffocation. The pulse is small, and in the last stage extremely irregular, with palpitations of the heart; the skin is dry, the urine diminished in quantity, the lower extremities become œdematous, the countenance is pale, with a purple hue of the lips and cheeks; there is a cough, at first dry, afterwards attended with expectoration of thin mucus. Œdematous swellings are not only observed in the feet, but also in the hands, which if united with a livid colour of the lips, may be considered as pathognomonic of the disease. Inspiration is more easy than expiration, and if there is much water on one side, the face, arm, and leg of that side are sometimes swollen. A fluctuation is sometimes to be perceived, the face swells and will pit upon pressure, and great debility and emaciation ensue. As the disease advances, these symptoms are greatly aggravated, or others still more distressing supervene.

In cases of hydrothorax in general, our prognostic cannot be other than very unfavourable; little encouragement of a radical cure can be given, and it will be our happiness if we can even alleviate the most distressing symptom. The cure, however, is to be attempted upon the same general plan with that of anasarca and ascites; the digitalis, or squills, combined with calomel and opium, are chiefly to be relied on; antimonial diaphoretics and

blisters, applied in succession to different parts of the thorax, will probably afford some relief. On the failure of these remedies, and if a fluctuation of water is clearly perceptible, it will perhaps be advisable to have recourse to the operation of paracentesis of the thorax; for particular directions respecting the mode of performance, the reader is referred to books on surgery. I again quote the words of Professor Hosack: "It were easy to relate many instances of *hydrothorax*, *ascites* and *anasarca* produced by a fulness of the vessels, relieved by blood-letting, calomel, and squills, and other depleting remedies, and the powers of the system again restored by chalybeates and other tonics. Digitalis, so generally and so freely administered in dropsies, can only be serviceable when the disorder is in its forming stage. In the secondary stage of the disease, when symptoms of fulness or preternatural excitement do not exist, this active narcotic cannot fail to do harm." Dr. Ferrier appears to have been solicitous to find a more certain *hydragogue* than any of those now in use; and from the successful results of his own ample experience he recommends an extract of the *elaterium* as surpassing every other medicine in the power of removing serous accumulations, and as affording astonishing relief in the dyspnœa arising from hydrothorax and ascites. Dr. Ferrier has briefly related the particulars in twenty cases in which the elaterium was prescribed with various success. Upon its first exhibition to a patient, it is nearly as active and as dangerous, if incautiously given, as arsenic.

"The sensible effects of the elaterium are, severe and constant nausea, frequent watery stools, and, in considerable doses, vomiting. It does not uniformly increase the urine, and for this reason it is generally proper to combine it with more certain diuretics. After continuing the use of the medicine for some days, the patient will sometimes bear a considerable increase of the dose. I have gone to the extent of five or six grains a day in this manner, without producing any inconvenience. But it is always proper to begin with the lowest dose, which is the sixteenth part of a grain of the extract."

"I have frequently had recourse to the elaterium, both in hospital and private practice. My experience coincides with that of Dr. Ferrier; the elaterium is a powerful, and in every instance in which I have used it, a certain hydragogue. I have begun with the eighth of a grain four times a day, and given it to the extent

of two grains three times a day. It produces copious liquid evacuations from the bowels, under circumstances of great torpidity of the intestinal canal, when other powerful means have failed, and at times causes an additional increase in the urinary discharge. This latter effect, however, as remarked by Dr. Ferrier, is very uncertain. I have deemed it most expedient, notwithstanding its vigorous action, to unite the pulv. ext. elat. with small doses of cream of tartar, in preference to either calomel or squills. It does not appear to add to the debility of the system, as some other remedies employed to fulfil the indications answered by the elaterium."

Hydrops Abdominis, or Ascites.

Ascites is not necessarily connected with a collection of water in any other part of the body, but is not unfrequently combined with anasarca or hydrothorax. It commences with a tumefaction of the abdomen, which gradually increases until it is uniformly distended, and there is a distinct fluctuation perceivable by applying one hand to the belly, and striking the opposite side with the other; the urine is diminished in quantity, and of a deep colour; there is a great thirst, and more or less fever; the face is generally pale and bloated, and the breathing is difficult when the water is accumulated in a large quantity, pressing against the diaphragm. When the disease arises in consequence of morbid affections of the liver, or any other internal viscera, the general system is frequently not much affected, but the event is always precarious. In the ascites, the water is on some occasions confined in different cysts or in one of the ovaria, in which case the fluctuation is more obscure, and in the early stage of ovarian dropsy, the tumour is situated towards one side of the abdomen, and is less smooth and uniform than in genuine ascites. When, too, the water is very viscid, or when confined in hydatids, the fluctuation will be less distinctly perceived. It is often extremely difficult to distinguish between a dropsy of the belly and a state of pregnancy. When deception is intended, the most skilful physician, with all his care and attention, is liable to suffer imposition, and on certain occasions the character both of the physician and his patient may essentially depend on a correct decision. "Dreadful to relate!" says Dr. Parr, "the trocar has more than once within our own observation, happily not by our direction, been plunged into

a pregnant uterus." Dr. Good relates the following singular incident. "If dropsy occur at a period of life when the catamenia are on the point of naturally taking their leave, and where the patient has been married for many years without ever having been impregnated, it is not always easy from the collateral signs to distinguish between the two. A lady under these circumstances, was a few years ago attended for several months by three or four of the most celebrated physicians of this metropolis, one of whom was a practitioner in midwifery, and concurred with the rest in affirming that her disease was an encysted tumour of the abdomen. She was in consequence put under a very active series of different evacuants; a fresh plan being had recourse to as soon as a preceding had failed; and was successively purged, blistered, salivated, treated with powerful diuretics, and the warm bath, but equally to no purpose: for the swelling still increased and became firmer; the face and general form were emaciated, the breathing was laborious, the discharge of urine small, and the appetite intractable; till at length these threatening symptoms were followed by a succession of sudden and excruciating pains, that by the domestics, who were not prepared for their appearance, were supposed to be the forerunners of a speedy dissolution, but which fortunately terminated before the arrival of a single medical attendant, in giving birth to an infant, that, like its mother, had wonderfully withstood the whole of the preceding medical warfare, without injury."*

In forming our conclusion in all suspicious cases, we must attend with scrupulous exactness to the first appearances, the progress, the form and state of the tumour, with the appearance of the mammæ and other circumstances. "If the menses continue regular; if the mammæ appear flat or shrivelled, with a contracted and light coloured areola; and if the intumescence fluctuate to a tap of the fingers, there can be no doubt of its being a case of dropsy: but if, on the contrary, the mammæ appear plump and globular, with a broad and deep coloured areola; if we can learn, which, in cases where pregnancy is wished to be concealed, we often cannot do, that the catamenia have for some time been obstructed; and if the swelling appear uniformly hard and solid; and more especially if it be seated chiefly just above the symphysis of the pubes, or provided it be higher, if it be round and circumscribed, though

* Study of Medicine, by John Mason Good, M. D. F. R. S.

we may occasionally err, there can be little or no doubt in most instances, of the existence of pregnancy. The most difficult of all cases is that in which dropsy and pregnancy take place simultaneously. It is a most distressing combination for the patient; and can only be treated with palliatives till the time of child-birth."* There is also considerable difficulty in ascertaining with certainty, whether the water is contained in the cavity of the abdomen, or whether it is an encysted dropsy. The young physician will often be embarrassed in forming his judgment; but if the swelling from the beginning is equally diffused over the whole belly, the probability is strong in favor of the water being contained in the cavity of the abdomen. But if at its commencement the tumour and tension appear in one part of the belly more than another, we have much reason to suspect an encysted dropsy.

With respect to the curative course to be pursued in ascites, a detailed series has already been given under the heads of anasarca and hydrothorax, in the preceding pages. Little variation will be required in any case that may occur, though in ascites the means are more imperiously demanded than in anasarca. It ought to be observed, however, that the best concerted plans most generally fail, as our remedies have to exert their powers upon decayed constitutions and enfeebled vis vita. No progress can be made towards a cure unless we are armed with the most efficient means of evacuating from the system. The lancet, where inflammatory diathesis exists, leeches or cupping in some instances, and cathartic and diuretic medicines, promptly administered, will comprise the principal means which the healing art affords. Sydenham advises purgatives every day, unless too great weakness prevents their use. If, however, they induce severe colic, and the evacuations be small, they must be given less frequently; but if they produce large watery stools, whatever may be their number, purgatives will be useful and should be continued. There is a class of cathartics termed hydragogues, as they are supposed in a peculiar manner to expel water. This is indeed the characteristic of many of the resinous purgatives, such as elaterium, colocynth, scammony, and gamboge; but these are seldom to be employed alone; a combination of two or more quickens their operation, and proves

*Dr. Good.

more effectual. Jalap and cream of tartar united, are highly esteemed by some, but the elaterium combined with cream tartar, as mentioned in page 630, should probably have the preference. Diuretics are to be considered as of indispensable importance, and these may be conjoined with purgatives, or given separately, as may suit the views of the prescriber. The first in this class is digitalis; by some it is commended as surpassing all others, but it does not sustain its reputation in the hands of a majority of those who have given it a full trial in ascites. Dr. Parr says, (and this is high authority) "that the weak, languid, worn out constitution is chiefly benefited by the fox-glove, and the discharge of urine which it occasionally produces, is astonishing. We fear, however," he adds, "that the injuries resulting from it have greatly overbalanced its benefits. In dropsy, death often suddenly seizes the patient, and we have thought this sudden termination still more frequent when the fox-glove has been taken." Other diuretics might be enumerated, but it would only appear as a repetition of the preceding pages.

A singular expedient for procuring a discharge by urine in ascites, is by long continued friction over the abdomen with the fingers dipped in sweet oil, which has succeeded, it is said, when the operation has been repeated daily, and duly persevered in.

It remains to notice the last alternative for the relief of the hydropic patient, which is, the operation of paracentesis, or tapping. When all means of cure have failed, and the pressure and tension of the abdomen have become insupportable, the evacuation of the water by tapping will not only afford temporary relief, but will protract the period of fatal termination. Instances are on record of persons undergoing the operation more than one hundred times in twenty years, and the quantity of water evacuated is almost incredible. The operation is perfectly simple, and may be performed as follows. "Having placed the patient in a horizontal posture, with the head a little elevated, a flannel roller is to be applied on the upper part of the abdomen, and gradually drawn tighter as the water is drawn off, in order to support the patient by moderate pressure during the evacuation, as such a quantity of fluid being so suddenly drawn off would occasion fainting, &c.; then pass a trocar or lancet in the linea alba, from one inch to two or three below the navel, as on one side of that line there will be some danger of wounding the epigastric artery: if it be the trocar

that is used and a sudden stop of the discharge happens when withdrawn, pass a blunt probe through the canula, in order to discharge any thing that may obstruct the free passage of the fluid through the tube." The celebrated Mr. A. Cooper prefers the lancet, and has known instances where it has been used, that the patients would by no means submit to the introduction of the trocar in a future operation. When the operation is finished, apply merely a piece of dry lint on the wound made, and support it by adhesive plaster, and bind round the abdomen a flannel bandage. By some practitioners it has been recommended to puncture the skin at the navel for the evacuation of the water.

Hydrops Uteri.

Dropsy of the womb is not a frequent occurrence. Dr. Cullen defines it a tumour of the hypogastric region, slowly and gradually increasing, resembling the figure of the uterus, yielding to, or fluctuating on pressure; without ischury or pregnancy. "It is distinguished from the ascites by its being confined to the region of the uterus, and by the thinness of the os tincæ. This disease is soon followed by an anasarca, a slow fever, and a marasmus."

Hydrops Ovarii. Dropsy of the Ovarium.

This species of encysted dropsy usually begins without pain, and the general health is unimpaired. It is not perceived until it is much enlarged, and commonly appears but on one side. It is known by its being moveable when the patient is laid on her back, and by passing the finger up the vagina, the orifice of the uterus is found to move with the tumour, which distinguishes it from the ascites. But it seldom happens that the tumour rises above the pelvis, till general dropsy has come on, and obliterated the situation of the tumour. The fluctuation in this species is indistinct, and the disease is generally occasioned by hydatids. When there are several cysts, there are sometimes inequalities in the tumour, having the feel of scirrhus. Internal medicines are of little efficacy. Tapping may relieve for a time, and the operation is as safe as in the common ascites. But not, however, in the early stages of the disease, and no benefit could possibly accrue, as, if one of the cysts was opened, still others would remain; and peritoneal inflammation might be the consequence. The quantity

of water in ovarial dropsy is commonly from thirty to thirty-five pints, and cases have occurred where it exceeded ninety-seven pints. It is in cases where the quantity is large that the operation is warrantable.

Hydrops Testis, or Hydrocele.

The hydrocele consists in a morbid accumulation of the water separated on the internal surface of the tunica vaginalis to moisten or lubricate the testicle. A tumour first appears in the lower part of the scrotum; it gradually ascends from below upwards as the swelling increases in size; it becomes light and elastic, and affording resistance to the hand on pressure; it extends over the anterior part of the scrotum, and is of a pyramidal shape, somewhat resembling a large pear; the upper part or base being considerably larger than the lower. It is unattended with pain in general, but in some instances it increases to a painful degree of distention in a few months; in others its progress is more slow and it continues many years with little inconvenience. As it enlarges, the tumour becomes more tense, and is sometimes transparent; so that if a candle is held on the opposite side, a degree of light is perceived through the whole tumour. The scrotum is undiscolored and the size of its external vessels very little increased. On moving the scrotum, it is found to slip over the vaginal coat, which circumstance adds much to the facility of ascertaining the true nature of the disease. When pressed with the fingers a fluctuation will be discovered from one end of the tumour to the other. From the above description hydrocele may be discriminated from hernia, or from an inflammatory or scirrhous tumour of the testicle, with which it is liable to be confounded. The treatment of hydrocele is either palliative or radical. By the former only temporary relief is afforded; by the latter an endeavour is made to produce an union of the coats of the tunica viginalis, by means of the adhesive inflammation, by which the natural cavity between the tunic and the testicle is obliterated. When the complaint is not very distressing nor incommodious to the patient, and especially if the constitution is irritable, and the patient naturally timid, he should be advised to content himself with the relief to be obtained by the operation of tapping, although it may be requisite to submit to it every few months. The tumour may be punctured either with a lancet or trocar for the evacuation of the water. The patient

being seated, the operator with his left hand should grasp the tumour on its back part, so as to push the contained fluid into the anterior and under part of the swelling; the trocar is to be pushed through the integuments and tunica vaginalis, the point being directed obliquely upwards to prevent wounding the testicle, which always lies at the back part of the tumour. Withdraw the trocar, and when the fluid is all evacuated, through the canula, the orifice may be covered with a dossil of lint and a sticking plaster. Some prefer dividing the skin first with a lancet, and then using the trocar, but this is altogether unnecessary. Mr. B. Bell prefers a flat trocar, as being the easiest and best. Should any inflammation ensue, the scrotum may be washed with muriate of ammonia, dissolved in vinegar. Young subjects, previous to the age of eight or ten years, are sometimes affected with hydrocele. In these cases, the disease is often cured by the application of stimulant lotions to the tumour. Linen wet with a solution of muriate of ammonia should be kept constantly on the part until a cure is effected. Various are the processes devised for the purpose of producing a radical cure of hydrocele, the main object being in all to induce adhesive inflammation. The use of the seton by Mr. Pott, and the caustic by Mr. Else, are pretty generally exploded, and the two modes now employed for the accomplishment of a radical cure, are by the incision, as recommended by Mr. B. Bell, and the operation by injection, proposed by Sir James Earle. In operating by the incision, the tumour must be embraced with the left hand, and the incision should be made with the scalpel from the superior part of the tumour, and continued downwards its whole length, quite to its bottom, through the skin and adipose membrane. The tunica vaginalis being thus exposed, a puncture with a lancet should be made at its upper part, and the finger of the left hand is to be introduced, when, with a blunt pointed bistoury, it is to be laid open to the bottom. The sac should now be filled with soft lint, moistened with sweet oil, and the parts covered with a compress and secured by the T bandage. It may be objected to this mode of operating, that violent inflammation is apt to ensue. The present author performed the operation in two instances, a few years since. In the first, the result was remarkably favourable, the cure being completed in about a fortnight, without any inflammatory symptoms. In the other, the most alarming inflammation supervened, attended with a total suppres-

sion of urine, requiring the use of the catheter for several days. When the injection is to be employed, if the tumour be very large, it may be best to draw off the water, and allow it again to accumulate to about six ounces, when the tumour is to be tapped with the trocar, and as much of a mixture of red port wine with one third water, made blood warm, is to be thrown in by a syringe through the canula, as will distend the tumour to its original size. Instead of wine and water, some practitioners prefer a solution of sulphate of zinc in the proportion of one drachm to one pound of rose water. The time commonly allowed for the liquor to remain is from three to five minutes, according to the degree of pain excited, and when withdrawn, the orifice is to be covered with lint and a sticking plaster. The first symptom that the patient feels is a pain in the region of the kidneys, in the thigh, in the groin, and at the neck of the bladder. If the patient should not be affected with pain in the course of five or six minutes, it will be best to wait a little longer, or to leave a small portion of the liquor within the tunic. The first mark of cure is a redness of the scrotum, observable in about twenty-four hours. In forty-eight hours, the scrotum will be as large as it was previous to the operation. The swelling, in the course of a week, diminishes, and in a fortnight will be still further reduced, if not entirely removed. In Cooper's Surgery, to which I am indebted for some of these remarks, it is proposed in case the hydrocele be not transparent, and there is the least doubt respecting the nature of the disease, to make a small puncture with the lancet in the tunica vaginalis, by which the case may be at once decided, as without this precaution, unhappy consequences have been the result. It is necessary also to see that the canula be made so as to fit the trocar with exactness, as otherwise the injection will not be thrown into the tunica vaginalis, but into the cellular membrane.

When a hydrocele of the spermatic chord occurs, it is often liable to be confounded with the inguinal hernia. In such circumstance it will be advisable to wait until the tumour is so far advanced that the distinction may be easily made.

There is another species of hydrocele, which consists in a collection of water in the cellular membrane of the scrotum. This is merely a symptom of anasarca, and is easily cured by puncturing the skin on the lower extremities, and administering the appropriate medicines.

Hydrops Articuli.

"A dropsy in the knee; water collected under the capsular ligament of the knee. Dr. Hunter observes, that if the sinovia is separated in too large a quantity, and the absorbents fail in their action, an hydrops articuli succeeds, causing relaxation of the ligament. Mr. Sharp recommends a tight bandage, leaving the superfluity to be absorbed by the lymphatics. To this might be added some attenuating and discutient embrocation, such as the aqua ammoniæ acetatæ, or a solution of crude sal ammoniac in sharp vinegar." (Parr.)

ORDER III.—VITIA.

RACHITIS, OR RICKETS.

A VARIETY of opinions have been advanced by authors respecting the remote causes of rickets, but it is not necessary in this place to inquire how far they have been properly supported. It is well known that a damp and cold residence, impure air, inattention to cleanliness, want of suitable exercise, a deficiency of food, and debility, are the usual circumstances which conduce to this disease.

The characteristic marks of the rickets are, a relaxed skin, flabby muscles, an uncommon size of the head, the sutures and fontanella unusually open, the countenance sallow or bloated, the joints swelled, the ribs flattened, the sternum pushed outward, the long bones more or less curved and variously distorted, the spine incurvated, the belly preternaturally tumid, the appetite and digestion impaired, the bowels costive, the pulse weak and frequent, listlessness, debility, and general emaciation.

Infants are seldom attacked with this disease before the ninth month, and very rarely after the second year of their age. In a few instances it has been cured spontaneously, without medical assistance, but in the greatest number of cases, it yields to appropriate remedies within a year. If protracted beyond a year, it will in that case often cease to advance, and the health be entirely established, excepting the incurvation of the spine, and enlargement of the joints, which will remain permanently distorted for the rest of life. In a few cases, however, the disease has been known to proceed increasing till almost every function of the ani-

mal economy is affected, and death terminates the tragic scene. The mode of treatment to be pursued must be such as will bring the bowels into a proper condition, and invigorate the system. As the digestive powers are apparently injured, it should be the first object to clear the stomach and bowels from mucus and all impurities which would impede digestion or absorption. We are directed therefore by practical authors to begin with emetics, and repeat them as occasion may require, and they should be followed by gentle and steady laxatives. Rhubarb, from its astringent and bitter properties, may be the best adapted in obviating the tympanitic affection of the intestines which often attends this disease, and it may be conjoined with magnesia, and sometimes with a few grains of calomel. This is to be accompanied with warm stimulating liniments to the affected parts, with friction, and the tepid sea or salt water bath, and if the child should be able to bear the shock, the cold bath may be employed, and has been attended with much utility. The diet should be generous and nutritive, consisting principally of animal food; moderate exercise must not be neglected, the easiest and most convenient is that of swinging. It has been the practice to apply to the body and limbs of rickety children various kinds of bracing machinery, with the view of correcting or obviating deformity, but these have not been productive of such beneficial effects as to counterbalance the great inconvenience attending their use, and they are now pretty generally exploded. But it is nevertheless proper to keep the child as much as possible in a straight and natural position, and the spine and limbs should be carefully examined from time to time, and on the smallest deviation from the natural form being discovered, the faulty parts ought to be well washed every morning and night with brandy, or other spirits, and this may even be useful as a preventive remedy. Of vegetable tonics we give the preference to the Peruvian bark, which may be administered either in substance, decoction, or infusion alone, or joined with some chalybeate. The most proper of the metallic tonics are, the carbonate of iron, and the muriate of ammonia and iron, formerly called martial flowers. The child may take morning and evening a powder composed of four grains of the carbonate of iron and four grains of rhubarb, mixed with eight grains of finely powdered white sugar; or the following preparation may be preferred; take of the root of sweet scented flag, (calamus aromaticus) and gentian root, each three

drachms; Peruvian bark, in powder, half an ounce; iron filings tied up in a linen bag, six drachms; Spanish white wine, or Lisbon, one quart. Digest for the space of three days, and then filter the tincture. Four tea-spoonfuls of this tincture may be given twice a day.

LITHIASIS, OR CALCULI.

These very painful diseases consist in a lodgement of calculous concretions, either in the kidneys, bladder, or urinary passages. If small stones or sand is discharged with the urine, the person is said to have the gravel; but when calculous matter has accumulated in the bladder, and acquired such size as to be incapable of passing through the common passage, the complaint receives the name of stone.

Those persons who are in the decline of life, and who are engaged in sedentary employments, especially those who are much afflicted with the gout, are in general subject to nephritic complaints. Men are more liable to them than women; and children from infancy to about fifteen years, are very frequently subject to the formation of calculi.

The reputed causes of both gravel and stone, are high living and a sedentary life, with the free use of strong astringent wines, and water impregnated with earthy or stony particles; on some occasions, an accidental introduction of some substance into the bladder, has appeared to form a nucleus for a stone.

Calculi differ in their chemical composition. Those formed from uric acid are supposed to be the most common, and are soluble in alkalies and acids. The lithic or uric acid is that sediment in the urine which appears in the form of small red crystals deposited at the bottom of the vessel. Those formed from phosphate of ammonia and magnesia, have a whitish grey appearance, often transparent crystals on their surfaces, and are soluble in muriatic acid. That kind termed *mulberry calculi* consists of oxalate and phosphate of lime, and resembles the mulberry stone. The *bone-earth calculi* is composed of the phosphate of lime.

The symptoms which attend the existence of small stones or gravel in the kidneys, are an obtuse pain about the loins, nausea and vomiting, and sometimes bloody urine. When the stone de-

scends into the ureter, and is too large to pass with ease through that canal, all these symptoms are increased; the pain extends along the course of the duct towards the bladder; the thigh and leg of the affected side are benumbed; there is a retraction of one of the testicles, and the urine is obstructed in its passage. These symptoms constitute what is called a fit of gravel, and the pain is on some occasions so exquisite as to produce faintings and convulsions. When one or more stones are contained in the bladder, the patient first feels an excessive smarting sensation about an inch up the urethra, which increases to an exquisite degree of pain. When the stone is large, the patient finds it easiest to discharge urine when the abdominal muscles are relaxed; he therefore bends himself forward, resting upon his arms, and this is one of the surest signs of a stone in the bladder. It is known also by a weight in that part, and a pain at the time, as well as before and after, making water, from the urine being discharged by drops, or stopping suddenly in the midst of the evacuation; or it can be passed only when lying on the back. There is also a pain in the neck of the bladder upon motion, especially on horseback, or in a carriage on a rough road; in consequence of which the urine is often bloody. There is likewise frequently a white, thick, and copious sediment in the urine, an itching at the end of the urethra, and an inclination to go to stool during the discharge of the urine. There is also a kind of convulsive motion occasioned by a sharp pain in discharging the last drops of urine. The existence of a stone in the bladder may be further ascertained by discharge of small pieces of such stony matter, but more certainly by sounding or searching, either by the introduction of the finger into the anus, or of the catheter into the bladder.

Since all attempts to dissolve a stone in the kidneys or bladder have proved ineffectual, our remedies must be adapted to palliate the distressing symptoms.

In a fit of gravel, as it is called, the patient must be bled once or more if necessary, emollient clysters administered, and warm fomentations or bladders filled with hot water, applied to the part affected, with the use of diluting and mucilaginous liquors: and a similar mode of treatment with that detailed under the heads of inflammation of the kidneys and bladder, must be pursued. The preparation of spirit of nitre and laudanum, mentioned above, for the suppression of urine, will here also prove peculiarly advan-

tageous. A common plant, called Philadelphia flea-bane, is said to have been given with evident relief in gravelly affections. Half a pint of a strong infusion of the plant twice a day is the dose prescribed. A jelly made of blackberries has likewise obtained considerable credit in different parts of the United States, for the essential relief which it affords in all gravelly complaints.

Among the endless variety of lithontriptics the fixed alkali has been held in the highest estimation, and the form of caustic ley or soap leys, is that in which it has been generally employed; but a long exhibition of this active medicine commonly produces injurious effects on the stomach. This medicine, with the alicant soap and cockle-shell lime water of the late Dr. Whyte, appear now to be wholly superseded by the alkaline ærated water, lately introduced by Mr. Colbourne, Drs. Falconer, Percival and others. It possesses the alkaline properties, but rendered extremely mild by being impregnated with the carbonic acid gas, or fixed air; and although it is not considered as an absolute solvent of the stone, it is affirmed to be the most efficient and certain of all medicines as yet recommended to the public confidence, in alleviating the distressful symptoms of this most painful disease. Experience has evinced that it will prevent the farther accumulation of calculous matter and wonderfully tend to render the urinary passages less sensible to the irritation of the calculous which exists, and thereby render the days of the unhappy patient tolerable and comparatively comfortable. The quantity of the ærated alkaline water usually taken is a gill thrice a day, before breakfast, dinner, and supper. When the stomach will bear a larger quantity it may be increased to a pint in a day. When it proves cold to the stomach, or occasions flatulency, a tea spoonful or two of brandy or gin may be added to each dose. The manner of preparing this liquid will be described in the Appendix. The artificial soda water sold in our cities, will probably answer the same purpose, and when neither can be procured, a medicine nearly similar may be prepared in the following manner; dissolve twenty grains of salt of tartar or sal æratus in two or three table spoonfuls of water; add to the solution a table spoonful of the juice of lemon or pure vinegar. This mixture should be swallowed immediately, and is the proper quantity for a dose, and may be repeated three or four times in a day as circumstances require. When the irritation of the urinary passages is great, it may be of use to take a few

drops of laudanum with each dose of the above; but this ought to be discontinued whenever there is an abatement of the painful symptoms. In many cases where these medicines are not employed the mixture of spiritus nitri dulcis and laudanum, taken as recommended in suppression of urine, will afford considerable relief. No particular diet or regimen is necessary to be observed while using the above mentioned medicines farther than abstaining from acids, fat meat, and butter.

The method of prevention and cure of gravel in the kidneys and stone in the bladder, recommended by the late Dr. Whyte, of Edinburgh, consisted chiefly in the use of alicant soap and oyster or cockle-shell lime water, to the quantity of one ounce of the former and three or four pints of the latter during the twenty-four hours, and to be persevered in for several months, or even years, if necessary. Preference however, has latterly been given to the caustic alkali or soap leys, in doses at first of thirty or forty drops, increased by degrees as far as the stomach can bear it, which on account of its acrid nature must always be given in some mucilaginous liquor, such as linseed tea, a decoction of marsh-mallow roots, or a solution of gum arabic. But it has been found that no stomach can endure the application of either of these medicines for a length of time sufficient to act as a solvent of the stone without material injury. An infusion of the seeds of daucus sylvestris or wild carrot sweetened with honey, is a simple and much esteemed remedy in painful complaints of the kidneys and bladder; considerable benefit has also been experienced by the use of the garden-leek in strong infusion, to the quantity of a a pint a day. The uva ursi, or bear's whortleberry, has been recommended as a most efficacious remedy for the stone, but it possesses no lithontriptic powers, and can be useful only in cases of relaxation or ulceration of the kidneys or bladder, when it should be freely employed as a tonic, in doses of from half a drachm to one or two drachms in powder, or two ounces of a strong infusion twice or thrice in a day. From Dr. Seaman's Dissertation on the Mineral Waters of Saratoga and Ballston, we learn that those waters are a valuable remedy in all gravelly complaints, having afforded great relief in almost every instance in which they have been tried, and we have other authorities in favour of the efficacy of the Ballston waters in calculus and gravel and other diseases of the kidneys and bladder. Another simple remedy may be mentioned as having been prescribed

with great success by Dr. Macbride; boil thirty berries of raw coffee in a quart of water until it acquire a deep greenish colour; of this liquor about half a pint is to be taken morning and evening with ten or fifteen drops of dulcified spirits of nitre; the use of this is said to have occasioned the discharge by urine of large quantities of earthy matter in flakes.

The common hop is said to have been administered in nephritic calculous affections with such manifest advantage as to obtain high encomiums as a valuable antilithic. It has been ascertained by experiment, that the infusion is a certain solvent of the stone out of the body, and it is assserted by high authority, that it seldom fails to alleviate the pain and increase the secretion of urine when taken internally. Dr. Barton, however, found by experience in his own case, that the use of the highly hopped malt liquors subjected him more frequently to nephritic attacks.

Although physicians entertain different and opposite opinions respecting the antilithic powers of this vegetable, there is sufficient evidence of its efficacy to warrant and induce a thorough trial of it in every instance of these distressing complaints. The infusion is directed in doses of about a wine-glassful every few hours, to the extent of a pint in a day. A respectable clergyman a few years since assured me that he was in possession of a secret remedy for gravel and stone, which had been very successful employed, and obtained great celebrity. Having furnished him with some calculi of considerable size, taken from the urethra, I witnessed his experiments with them. The calculous substances being moistened with his liquid remedy, actually adhered together by chemical attraction, and being immersed in the liquid, they were in a few days completely dissolved. I have since ascertained this liquid to be no other than a decoction or infusion of the hop.

The muriatic acid is reported to have produced beneficial effects in many calculous cases, and to have proved a powerful lithontriptic when given in doses of twenty or thirty drops, three or four times a day, properly diluted with water or some mucilaginous drinks.

In most of the painful cases of gravel or stone which may occur, some of the above enumerated remedies will undoubtedly be the means of affording all the ease and comfort that the afflicting disease will admit of, but the remedies must be varied according to the particular circumstances of each case. The reader is

referred to the chapter on inflammation of the kidneys and bladder.

Those who are afflicted with the gravel or stone ought to avoid all aliments that are hard of digestion, flatulent, or of a heating nature, as well as fermented liquors; wines, and acids in particular of every kind are prejudicial. The alkaline ærated water, or the common soda water, and sometimes a little gin and water, will be the most proper drinks. "When a person is conscious of having passed a small stone through the ureters into the bladder, it is recommended to drink freely of diluting liquors, and to retain the urine till the bladder is so distended as to occasion a great desire to evacuate. He should then place himself on his knees, bend his body forward, and make water in that situation. The small stone by its weight will fall into the neck of the bladder, and very probably be carried away with the urine which is rushing out. Sir James Earle is persuaded that if persons subject to calculous concretions were attentive to such directions, we should see fewer cases of stone in the bladder." (Dorsey's Cooper.)

Dr. Ferriar speaks very favourably of the uva ursi in nephritic complaints, and in doses much smaller than the usual quantity. Having premised bleeding and gentle purgatives, he gives five grains of uva ursi and half a grain of opium three or four times a day, according to the urgency of the symptoms. This method, he observes, always relieves, and generally effects a cure. Many patients have used the remedy for several months together before a permanent relief from pain was attained; the fits became lighter, and at length ceased altogether. In cases of bloody urine, Dr. F. has found the uva ursi equally efficacious. He conceives that this remedy acts specifically as a tonic and astringent on the kidneys. In doses of a scruple or half a drachm, this medicine produces nausea, even when joined with opium. He further asserts, that he has met with no remedy which has answered so well in that distressing strangury which sometimes is produced by blisters. An infusion of the uva ursi, given during the use of the blisters, will effectually prevent the strangury. See New-England Journal of Medicine and Surgery, Vol. II. page 180.

"Mr. Brande, in a paper printed in the London Philosophical Transactions, recommends magnesia in calculous complaints, as a substance well adapted to prevent the formation of uric acid, and thus arrest the progress of these disorders. Mr. Brande states

that the best method of giving the magnesia is in plain water or milk, to be taken in the morning early or at mid-day. If the stomach is weak, and this produces uneasy sensations or flatulency, some common bitter, such as gentian, may be added; and if it purges, a little opium should be combined. The dose of magnesia may be five grains twice or thrice a day to children below ten years of age; fifteen and twenty grains to adults. Common magnesia has been usually employed, but calcined magnesia may be used occasionally. When a stone is already formed in the bladder, this medicine cannot be expected to diminish it, but merely to prevent its increase." New-England Journal of Medicine and Surgery, Vol. II. pape 307.

SCROFULA, OR KING'S EVIL.*

This disease is in its nature peculiarly inveterate, and of all others is most generally handed down by parents to their offspring. It is not uncommon for scrofula to lie dormant for two or three generations, and afterwards to appear with redoubled violence. It is originally a disorder of the glands, but eventually seizes the bones, especially about the joints. Children possessing the most lively disposition, and a maturity of understanding superior to others of their age, are those most liable to scrofula. The predisposing causes are all those which induce debility, and there always is in scrofula a weakened action of the arterial as well as of the absorbent system.

It most commonly affects children of a lax habit, with smooth fine skin, fair hair, and rosy cheeks. It seldom makes its appearance before the second year of age, generally from the third to the seventh, and rarely makes its first attack after puberty. Scrofula is seldom fatal at an early period of life, but most commonly continues almost without alteration till the age of fourteen or fifteen, when it recedes, especially in females, and the patient becomes

* It is that form of the disease in which the glands of the neck are principally affected, that is known by the vulgar term King's Evil; from the preposterous belief that the touch with the royal hand will infallibly effect a cure; and the same notion has prevailed in favour of a stroke with the hand of a seventh son. Instances of trial are not wanting, in which the imagination has been wrought to such a pitch as to encourage a belief in such agency.

more robust and free from other disorders. On the other hand, after disappearing for several years, it has been found to affect some inward part, and in the end to produce a consumption of the lungs or other fatal disease. This disease is often preceded by a peculiar look about the eyes, which are generally large, and a thickness of the upper lip. The abdomen is sometimes observed to be hard and enlarged, and there is a remarkable softness of the skin. Small moveable tumours, about the size of a pea, bean, or chesnut, hard, indolent, of the natural colour of the skin, unless when inflamed, make their appearance about the sides of the neck, often in considerable numbers, and sometimes similar tumours, or kernels, occur in the armpits and groins. Scrofulous tumours, often remain stationary and harmless, for months, and even years, when at length a slow and imperfect suppuration takes place, discharging a thinnish, white, curdly matter, and leaving foul ulcers, with hard edges, which are difficult to heal, and producing unseemly and disagreeable scars. The scrofulous humour of long continuance, sometimes fixes in the joints of the fingers, wrists, knee, elbow, and ankle, creating tumours, swellings of the bones, and incurable ulcers.

An enlargement of the mesenteric glands, termed *tabes mesenterica*, is generally a concomitant with scrofula, and is marked by an increased size of the abdomen, a ravenous appetite, and matter similar to chyle is discharged with the stools. This is owing to an obstruction in the glands preventing the chyle being absorbed by the lacteals.

In every instance of scrofula, the cure is attended with difficulty and uncertainty. It is always to be attempted, however, by such method as will tend most effectually to invigorate and strengthen the relaxed and debilitated system. This disease has a strong affinity to the rickets, and requires a similar mode of treatment, so far as relates to a diet easy of digestion, and of a nutritious quality. This should be accompanied with tonic and invigorating medicines, of which, bark and steel, with wine and aromatics, are chiefly to be depended upon. A persevering course of exercise and a warm pure air, should be considered as of primary importance, and are on no account to be dispensed with. So great are the advantages of proper exercise, and a generous diet, in this disease, that these alone have sometimes performed cures, when medicines have rendered little service. Mild laxatives will be useful,

to cleanse the stomach and bowels of impurities, but strong purgative medicines must be carefully avoided, as tending to weaken the constitution, and increase the disease. Dr. Underwood recommends one drachm of cathartic salts, dissolved in a pint of water, to be taken every day as common drink. The remedy most generally employed for ages past, and highest in repute at the present day, is sea bathing. This should be put in practice at an early period, when a scrofulous disposition is apparent, and daily persisted in for months, or even years, unless the disease sooner yields to its powers. Where this practice cannot be complied with, sea water, or water in which salt has been dissolved, may be used in the manner of the shower bath. In children of a gross habit of body, a glass full of sea water drunk every morning, may be recommended, as also lime water for common drink. The use of the cicuta or hemlock, both inwardly and outwardly applied, has been found beneficial in many instances, and is deserving of trial, under the direction of a well informed physician. Scrofulous tumours in the neck have in some instances been dispersed by the powers of electricity or galvanism. Electrical shocks, passed through the tumours, may be tried with safety and probable advantage. Considerable benefit has sometimes been derived from the repeated application, and friction, with oil of almonds fully charged with camphor. This tends to disperse the tumours in their incipient state, and to soften the parts after suppuration. When the tumours appear to advance towards a state of suppuration, we ought to promote and expedite the process, not, however, by poultices, and other warm applications, which tend to weaken and relax the parts, but it is requisite to increase the activity of the inflammation by a blister over the tumour, or by stimulant plasters, or vinegar impregnated with common salt. The tumours should be suffered to break of themselves, in preference to opening them with a lancet, and the ulcers which ensue are to be treated according to their condition and appearance. In general, linen cloths dipped in a solution of sugar of lead, or in cold water, or sea water, may be applied to the ulcers with advantage; and sometimes their healing may be promoted by washing in a weak solution of nitric acid in water. Inveterate scrofulous ulcers are said to have been cured by the application of the bruised leaves of wood sorrel. But the most extraordinary instances of success, in scrofulous affections, are some cases in which the inhaling of vital

air, as directed of late by several European physicians, has performed a perfect cure after all the usual remedies had been tried in vain.

In every instance of scrofula, and in its various forms and stages, the greatest dependence is to be placed on the tonic powers of warm pure air, exercise, and a generous diet, with sea bathing, the Peruvian bark, and chalybeates. Friction and warm clothing must not be neglected. It is asserted by Dr. Willich (Domestic Encyclopedia) that the coltsfoot has been found of considerable service in scrofulous complaints; a decoction of these leaves having sometimes succeeded where sea water had failed.

In our medical treatment it is a primary object to have constantly in view the original debility of the vascular system, and loss of energy in the vis vitæ. When it is desired to promote absorption, small doses of the muriate of mercury will have that effect. About one sixteenth part of a grain is a proper dose, twice in a day, for a child two years old. In all the various forms of scrofula, particularly an enlargement of the mesenteric glands, and glands of the neck, swellings of the joints, or scrofulous ophthalmia, the muriate of mercury is a medicine of superior efficacy, not with the view of inducing a specific mercurial action, but to act as a tonic to the arterial and lymphatic systems, similar to the arsenical solution, to which it ought to have the preference. As an auxiliary to this course, and in fact under all circumstances attending scrofula, I should strongly recommend the use of *pyrola umbellata*. It possesses tonic and diuretic properties; it certainly improves the general health when continued for a length of time. It is the basis of an empirical remedy for scrofula, which has obtained considerable popularity. A decoction of the tops and roots may be employed, or the whole plant may be infused for about twenty-four hours in pure cold water, and taken to any quantity, and it may be made a vehicle for the medicines administered.

It appears upon the authority of the late Dr. Beddoes, and other European physicians, that a remedy for scrofula has been found in the *muriate of lime*. This, it is ascertained by chemists, enters into the composition of sea-water, and it may be that the efficacy of the latter in this disease is to be ascribed principally to the muriate of lime which it contains. But, says Dr. Hosack, "as scrofula is usually attended with a general debility of the system,

as well as a morbid condition of the fluids, the Ballston waters will probably be found peculiarly serviceable, inasmuch as they possess the means of invigorating the system at the same time that they contain the antidote (muriate of lime) to the peculiar virus of that disease."

SYPHILIS, OR LUES VENEREA.

It will not be the object of the present author to ransack the records of antiquity to ascertain the origin of syphilis; whether it first appeared in Europe in 1493, and was known at the seige of Naples, or that the followers of Columbus brought it from the West Indies, or whether its source may be traced to a much earlier period among the Greeks and Romans, nay, even that the licentious among the ancient Jews were scourged with this odious disease, are points of little importance as respects its character and mode of treatment at the present day. The controversy respecting the identity of gonorrhœa and syphilis is a manner put to rest; the advocates for the affirmative of the question are less strenous than formerly and the decoction seems now to be pretty generally prevalent that gonorrhœa and syphilis are certainly distinct in their causes, their progress and effects. This principle being adopted on the present occasion, our views of gonorrhœa and its treatment are disposed of accordingly in page 491. It is a received truth, gonorrhœal matter applied to a wound or ulcer will not produce syphilis, nor will the matter of chancre inserted into the urethra produce clap, though it may excite a discharge similar to that which is the effect of any irritating substance on a secreting surface. We have been apprised of one singular instance of a Col. B. who received infection and actually had gonorrhœa from sitting on a necessary where a plastering gonorrhœal matter had been left and which came in contact with his penis.* Lues venerea was known at a period of one hundred years prior to any knowledge of gonorrhœa. The venereal virus is communicated only when applied to some part which is soft and covered with a mucus membrane or else to some place where there exists an excoriation, ulcer or wound. It always produces an inflammation of a peculiar nature,

* Cooper's Surgery.

and the disease may be communicated long after the inflammation has disappeared. The effects of the poison on the human body are both local and constitutional. The infection generally appears first in the part to which the matter is applied, as about the organs of generation, the nipples and breasts of women, who receive it from the mouth of a child, and on the contrary, the lips and mouth when it receives the infection from the nurse. In like manner the infection may be conveyed to the fingers, or any part on which there exists a slight scratch, or wound, as experienced by accouchers who officiate under such circumstances.

Chancre.

Chancres are small callous ulcers chiefly about the glans penis. A small pimple is first discovered most commonly near the frænum, which contains a whitish matter inclining to yellow; this soon bursts, and leaves a circumscribed painful sore, having foul edges; it discharges a matter of a dirty green colour, often tinged with blood, and which is large in quantity in proportion to the size of the sore. The period of the appearance of chancre after receiving the infection varies from five or six days to as many weeks. They occasionally make their appearance on all the parts of generation, and often exend to the contiguous parts, most frequently on the glans and on the prepuce, about the frænum, and even within the urethra. A real venereal chancre is seldom so large at the first as the base of a split pea, and the edges of the sore are elevated, somewhat hard and painful. By these marks a chancre may be known from other inveterate sores, or excoriations observed upon the genital parts. If a chancre be seated within the urethra, it may be mistaken for a gonorrhæa, but may be distinguished by the smallness of the discharge, the pain during erection being in the extremity of the penis, or a particular spot in the urethra. In females, chancres exactly resemble those in men, and occur chiefly on the internal parts of the labia pudendi nymphæ, clitoris and the entrance of the vagina and urethra. The first appearance of chancre is a circumstance which ought to lead most decisively to the administration of mercurials internally. A chancre is supposed by some to be merely a local affection, and a cure is attempted by local applications and dressings, but although cures may have occurred from this practice, yet, as we have no means of being ab-

solutely safe, the cure of even the slightest chancre should never be trusted to external remedies alone. If, however, the pain and inflammation should be very considerable, and phimosis take place, there will probaby be a general and deep redness over the parts, with a copious discharge from under the prepuce; immediately on observing these appearances the use of mercury must be abandoned for the present, as it will aggravate the symptoms. A purgative of rhubarb and calomel should be given and after the inflammation has yielded to the usual means, the employment of mercury may be resumed. Blood should be drawn from the arm or from the large veins of the scrotum in preference to leeches, as their wounds may prove difficult to heal. The irritation must be allayed by opiates applied to the parts, and 60, or 80 drops of laudanum thrown into the rectum with a syringe. The local applications should be made while cold and renewed when they become dry and warm. The local applications best adapted to the indications in chancre is the mixture called the black wash composed of about half a drachm of calomel and eight ounces of lime water, and this should be injected under the prepuce in order to remove the discharge which excites irritation and a little opium maybe added to the wash if necessary. The red nitrate of mercury, or calomel, is often sprinkled over the sore to much advantage and a lotion composed of one grain of muriate of mercury and eight ounces of water will have a salutary effect. But the most inveterate chancre will commonly yield to the efficacy of the nitrate of silver, if properly applied in the form of solution. The internal administration of mercury must be continued until its effects become evident and for a week or more after the sore has healed and all appearance of hardness is removed. The most eligible preparations of mercury to be employed will be noticed hereafter.

Phimosis and Paraphimosis.

These complaints have been already noticed, page 495; but some further observations seem proper, as, on some occasions they are connected with circumstances extremely embarrassing and formidable. When phimosis has continued for some time, a sloughing of a portion of the glans is apt to take place, which renders the operation of circumcision expedient. This is performed by cutting off a circular portion of the prepuce, after which the re-

quisite remedies can be applied. But it sometimes happens that chancres occasion such excessive irritation, and so high degree of erysipelatous inflammation and pain, as to threaten the most serious consequences. In this deplorable condition, mercurials must be laid aside, as their continuance will increase the irritable state of the local affection. A lotion composed of the nitric acid, six or eight drops to four ounces of distilled water, will tend greatly to appease the irritation. The root of the sophora tinctora, in the form of decoction, is to be strongly recommended as a salutary wash in all cases of chancre and venereal ulcers; it has a tendency to cleanse and correct the fœtor and to promote the healing process. The bowels should be cleansed by a brisk purgative, and opium combined with cinchona must be directed. But the most destructive cases are those in which sloughing of the glans and prepuce extends to a large portion of the penis and urethra, which are separated; here, if mercurials are used, internally or externally, they will induce the sloughing disposition to extend still farther to the contiguous parts. The applications required in these circumstances are, besides the nitric acid lotion, the black wash applied quite hot, poultices of carrots, and linseed or the mucilage of slippery elm, or half an ounce of yeast and half a pint of water made into a poultice with oatmeal; or a poultice of pulverized charcoal may have its use. Internally, opium and cinchona must be relied on, unless the latter should disorder the stomach, or excite febrile symptoms. Opium is of great use, given in the form of enema, or introduced into the rectum in substance.

Venereal Bubo.

A bubo is generally the consequence of chancre, though sometimes it is the first symptom of the disease. It is a hard, painful tumour, seated generally in the glands of the groin, distinguished into such as proceed from a recent infection, and such as accompany a confirmed lues venerea. A bubo commonly begins with a sense of pain, accompanied with some degree of hardness and swelling, which increase like every other inflammation that has a tendency to suppuration, and unless checked, pus forms, and ulceration follows. Venereal tumours do not, however, advance so rapidly to maturation as common abscesses, but more quickly than those arising from scrofula.

In every instance of bubo, it is a desirable object to procure its discussion in its early stage, before matter is formed to any considerable extent, as the distress and trouble they often occasion by proceeding to suppuration, are extremely severe. To effect this purpose, the mercurial ointment should be quickly introduced into the system by rubbing the inside of the thigh and round the edges of the tumour with it, in considerable quantities; in this way the mercury cannot enter the system, without passing through the diseased gland. The quantity at first may be about the size of a hazelnut of the strong mercurial ointment, every night, and gradually increased to double that quantity, and continued till the tumour and induration have entirely subsided. The mercurial friction should be accompanied with all the usual means of abating inflammation, as bleeding by leeches, frequent saline cathartics, perfect rest, and low diet. If this process be adopted at an early stage, in many instances nothing more will be required. When the tendency to suppuration cannot be arrested, and circumscribed redness appears around the tumour, the mercurial frictions must be discontinued, and the suppurative process should be promoted by the application of warm emollient poultices and fomentations; and when the end is accomplished, the abscess must be opened either by the lancet or caustic, and the ulcer be brought to a proper digestion by suitable dressings, and the internal use of mercury. But we are cautioned by some authors against giving mercury internally while inflammatory symptoms are present, either before or after suppuration. If, instead of healing readily, the edges of the sore become hard, livid and retorted, discharging a thin, sharp, and fœtid matter, and the ulcers spread or heal in some parts and break out in others, exhibiting a honey-comb appearance, attended with pain, the most efficacious remedies are carrot or hemlock poultices, and the application of caustic or the nitric acid round the edges; the cicuta should also be administered internally, as in scirrhus. The black wash already mentioned with the addition of opium, will here prove serviceable, by cleansing the ulcer and abating irritation. Should deep sinuses form, they must be opened to the bottom if practicable. The cinchona joined with the nitric acid, the compound decoction of sarsaparilla, and opiates, in such quantities as will allay irritation and procure relief, are in these cases essentially necessary; and these should be assisted by a generous diet, with wine, and if possible a pure country air.

Of the Secondary or Constitutional Disease.

The venereal virus is generally conveyed into the system from a chancre or bubo. It is asserted that the syphilitic poison may be introduced into the circulation without producing any evident local effect on the part to which it was first applied; and on some occasions it will remain dormant in the circulating mass for several months before any visible effects are produced.

When, either by neglect or improper treatment, the venereal poison has contaminated the whole habit, the disease receives the name of *syphilis*, or a confirmed *lues*, and is attended by a train of distressing symptoms. Among the numerous characteristics are reddish and brownish blotches and eruptions, dispersed over different parts of the body; appearing first on the breast and arms, next on the shoulders, thighs, legs, soles of the feet, palms of the hands, round the nails, and at the margin of the hair. These eruptions have a branny appearance, and are superficial, unattended with itching, and the scales being cast off, an ulcer of a copper colour is formed, which discharges an acrid fœtid matter. In the throat, tonsils, and inside of the mouth, the disease generally makes its appearance at once in the form of foul ulcers, which are covered with a yellow coloured slough, and often accompanied with an erysipelatous redness. There is great heat and irritation of the fauces, which are covered with an acrid viscid mucus, and the ulcer often spreads very rapidly, exhibiting the deep copper coloured complexion which is characteristic of lues, and which at length destroys the palate and injures the subjacent bones, making an opening from the mouth to the nose. When by its rapid spread, the disease attacks the cartilaginous parts of the nose, the ulcers are foul with callous edges, discharging a thin offensive matter, and being suffered to spread still more extensively, the bones become carious, and so completely corroded that the nose is prostrated level with the face. Characteristic too of syphilis, are deep seated pains, particularly of the arms, head and shins, always fixed in the same place, raging chiefly, and with great violence, in the fore part of the night. Hard indolent tumours, or nodes, at length make their appearance upon the tendons, ligaments, periosteum, or bones, especially on the forehead, tibia, arms, sternum, and ribs, with distressing pain when the patient is warm in bed. Being thus severely afflicted, the patient becomes debilitated, his

countenance is sallow, his appetite diminished, his hair falls off, his strength and flesh fail, and a small fever of the hectic kind ensues. Besides the formidable train of symptoms just enumerated, there is an ophthalmia arising in consequence of lues, and when the venereal sore throat extends its effects to the eustachian tubes, or the membranes or bones of the ear, a deafness is the consequence.

Frequent abortions, or premature births of dead fœtuses, whose bodies are scabby, ulcerated, and half corrupted without any manifest cause, may be regarded as almost an infallible sign of one of the parents being tainted with syphilis.

Having detailed the symptoms characteristic of confirmed lues, it is proper to remark, that they are liable to ambiguity, and to be counterfeited by some other affections, as rheumatism, scrofula, &c.

The local forms of lues venerea are so extremely equivocal and deceptive in their visible appearances, as on some occasions to baffle the discriminating powers of the most experienced physician. Such discrimination, however, is of the utmost importance, as it too frequently happens that some excoriation, or trivial diseased action to which the genital parts are susceptible in common with other parts of the body, have been greatly aggravated, and rendered inveterate by a mercurial course, when they might have been speedily cured by the most simple applications. Venereal ulcers in the mouth are distinguished from those arising from a too free use of mercury, by their affecting in general only one place at a time, are circumscribed, of a dirty brown colour, and appear on all parts of the mouth indiscriminately; whereas, those which are the effect of mercury, are diffused, appear in different parts of the mouth at the same time, and most frequently on the sides of the tongue, near the angles of the jaws, and on the inside of the cheeks. The mercurial ulcer as described by Mathias, or the mercurial disease, is commonly attended with more pain than the venereal. It will often heal, and after a time break out afresh in the neighbouring parts; and this it will continue to do for many months, particularly in throat cases. One of its striking characteristics is to heal in one part and grow bad in another; and we find this disposition to heal even in almost the incurable state of this disease, whether in the bubo, in the chancre, in the throat, or on the face. The mercurial ulcer is more irritable than the venereal ulcer.

In regard to the medical treatment of syphilis in its confirmed state, mercury is unquestionably the only specific remedy, and no other is deserving of confidence as being adequate to effect a radical cure. The only important point is to decide as to the particular preparation, and the most eligible form of administering this antidote.

The mode of administering mercury for the cure of lues under all its forms, is now ascertained with sufficient precision. It is by no means necessary to induce a profuse salivation; this is rather to be avoided as hurtful; at the same time, it is proper to carry it to such extent as to produce its full action on the system. This action is to be continued for a certain time, longer or shorter, according to the state of the symptoms and the previous existence of the disease. In mild cases it will in general require from four to six weeks perseverance to effect a cure; but in cases of long standing, eight or ten weeks or longer. It will be indispensably necessary to administer mercury in a quantity sufficient to render the constitution safe against future attacks. With this view, the remedy must be continued in such quantity as will keep the system in an equal degree under its influence, not only till all the symptoms are removed, but for some time afterwards. In primary affections only, a course continued for a fortnight after the symptoms have disappeared, will most generally prove sufficient to eradicate the disease; but in obstinate and inveterate cases, it will be advisable to persevere in the course at least a month after the cure is to all appearance complete.

The patient who commences a course of mercury, besides beginning with small doses and proceeding gradually, should be careful not to stimulate the salivary glands, either by rubbing or keeping the parts too warm with flannel. He should likewise avoid as much as possible any exposure to cold, which will endanger inflammation and tumefaction of these glands, and thereby give rise to a salivation. His diet should consist of plain animal food, thin broths, puddings, milk, vegetables, ripe fruit, &c. carefully avoiding all salted and high seasoned meats, spirituous liquors, and acids; and in fact abstaining from every substance of a heating or stimulating nature. There are two methods by which mercury may be introduced into the system for the purpose of eliminating or destroying the venereal virus; either by mercurial friction, or by exhibiting some of its preparations internally; and

in either form it may be used to such extent as to excite full salivation, or so cautiously as only to induce a moderate degree of ptyalism. Some practitioners indeed limit their views to an alterative course only, but though this may succeed in some primary affections, it is by no means calculated to eradicate a confirmed lues venerea. By a majority of physicians and writers of the present day, the external application of mercury is deemed the most eligible mode. It is, however, agreed, that instances will not unfrequently occur in which either the external or internal absorbents will not receive a sufficient quantity to produce the desired effect, either on the disease or the constitution; and when administered internally, mercury will very materially affect the functions of the stomach in despite of all our precautions. If, therefore, on trial, the external application should not succeed, we are to resort to the internal administration, and on the other hand, should this fail, the inunction must be substituted.

During the process of inunction, the patient should be confined within doors in a well aired apartment, which should be kept in an equal and moderate temperature, and he should wear flannel next his skin. The remedy will be more efficacious when introduced into the system in a gradual manner, unless the disease is spreading with rapidity, or the ulcers are deep seated. One drachm of the strong ointment containing equal parts of hydrargyrus and lard should be rubbed in every night, and frequently in the morning, on the inside of the thighs, legs, or arms, by the patient himself, and to do it properly it will require from twenty to thirty minutes of gentle friction before a moderate fire; the quantity should be increased or diminished according to the effects it produces; and continued regularly till a slight soreness is perceived in the gums, a coppery taste in the mouth, or a fœtor in the breath; this is the desirable point which if possible should be supported without much increase of saliva for a proper length of time. The strength of the patient should be assisted by a nourishing diet and a proper use of wine. If a profuse salivation occurs, the remedies employed to check it are mild cathartics, small doses of opium, the application of a blister to the throat, and the administration of the sulphuret of potash, or the sublimed sulphur, and the air of the apartment should be rendered cooler. Free exposure to a cool air, is, according to Mr. Pearson, more effectual than any other method. Peruvian bark, mineral acids, and the assiduous application

of astringent gargles will be useful, while the employment of mercury must be discontinued for a time. A valuable gargle may be composed by dissolving an ounce of borax in a pint of water, adding an ounce or two of honey. Opiates should be occasionally administered to allay the irritation. It is proper, however, to remind the incautious practitioner, that the sudden suppression of a profuse salivation by cold liquids taken into the stomach, or exposure to cold and moisture, is not without danger. On some occasions a morbid condition of the system occurs during a mercurial course, and which tends to a fatal issue. This is termed erythema mercuriale. It is characterized by a great depression of strength; a sense of anxiety about the præcordia; frequent sighing; trembling, partial or universal; a small quick pulse; sometimes vomiting; a pale contracted countenance; a sense of coldness, while the tongue is seldom furred, or the vital or natural functions much disordered. In this state a violent or sudden exertion of muscular power will sometimes prove fatal. To prevent the dangerous consequences the administration of mercury must be immediately suspended, and the patient exposed to a dry cool air, in such manner as shall be attended with the least fatigue, and large doses of the volatile alkali administered.

When mercury is exhibited internally for the cure of syphilis, it must be so gradually introduced as to steal as it were imperceptibly upon the constitution, that it may assimilate itself by solution with the juices of the body. The most successful practice consists in promoting the action of all the secretory vessels of the system, and especially those of the surface.

Among the various preparations of mercury which at different times have been employed, the common quicksilver pills of the dispensatory are mild in their operation, and supposed capable of answering every purpose which the remedy in any form can serve. The usual dose given with the view of inducing the mercurial action, is two pills containing one grain each, at bed time, and one in the morning, which may be occasionally increased.

The mild muriate of mercury or calomel, possesses anti-venereal powers capable of curing the disease in every form, as by proper management it may be made to increase in a remarkable manner, almost any of the secretions or excretions. It is given in the dose of a grain, night and morning; or in larger doses, combined with a

proper proportion of opium to prevent its usual determination to the intestines.

The corrosive sublimate, or oxymuriate of mercury, was in the days of the celebrated Van Swieten in the highest repute for its anti-venereal powers, and Dr. Locher, of the Vienna hospital, having witnessed the horrid calamities arising from salivation in lues venerea, upon the recommendation of Van Swieten made trial of corrosive sublimate; and from the year 1754 to 1762, he cured by it no less than 4880 persons without inducing salivation, and testifies that no person died or experienced the least painful or dangerous symptom in consequence of the remedy. Since that period, however, this preparation of mercury has from some cause fallen into disrepute, and it has been alleged by Mr. Pearson and other British authorities, that it is inefficient for the cure both of the primary and secondary stages of lues venerea. But it is known that throughout the European continent this form of mercury still retains its celebrity. In the venereal hospital at Paris, the largest and one of the best conducted establishments of Europe, the corrosive sublimate is the only form of mercury employed; and Professor Cullelier, after the most ample experience at this charity, knows not an instance of failure with this remedy, or one in which it has produced injurious effects.

Dr. John W. Frances, of New-York, in his ingenious inaugural dissertation on mercury, strenuously advocates the employment of corrosive sublimate, and has made the most favourable report of its anti-venereal powers, corroborated by the very respectable authority of Professor Hosack, who for the last twenty years has employed it for the cure of syphilis with uniform success. Among the principal advantages, says Dr. Frances, which the oxymuriate of mercury possesses over that of every other preparation of mercury, are, that judiciously administered, it is particularly mild and safe in its operation, will admit of a more extensive use in all the various forms of lues venerea, and subject the patient to fewer inconveniences: that it readily enters into the general circulation, becomes miscible with the several fluids of the body, the soonest arrests the progress of the complaint, and eliminates the morbid matter through those emunctories best calculated for that purpose: that it supersedes the necessity of salivation, by its action on all the secretions, and by promoting especially the cuticular discharges and the evacuations from the kidneys: that it is the only

preparation to be depended on in those peculiar habits of body so susceptible to become salivated by every other form of mercury now in use: that in its ultimate effects upon the constitution, it is attended with comparatively no injury. The evidence of its mildness may be adduced from the salutary effects which it produces in the constitutions of delicate children and even of infants. Dr. Frances further observes, that the preparation of mercury now recommended has been employed for the last twenty years by Dr. Hosack in his private practice and during his attendance at the New-York state-prison, New-York hospital, and the alms-house of the city, as physician of these institutions. It has invariably been found soonest to affect the system and arrest the action of the venereal virus; of course the remedy is best calculated for the removal of lues venera, both in its primary and secondary stages: and not a single case is recollected in which the cure has not been permanent.

For delicate children labouring under some hereditary taint, two grains of the sublimate are dissolved in one ounce of brandy, of which four drops to a child of one year, and six or eight to one of three years, are given three times a day in a little sweetened water. After its use two or three days, the dose may be a little increased. This preparation of mercury has frequently been administered in the form of spirituous solution, but on account of its inducing nausea and other affections of the stomach and bowels, the form of pills is in general to be preferred. To fifteen grains of corrosive sublimate, Dr. Frances adds the same quantity of the muriate of ammonia; having well rubbed them together, pour on one drachm of pure water, combine with the mixture a sufficient quantity of the crumb of stale wheat bread to absorb all the fluid, and divide the mass into one hundred and twenty pills. One of these is to be taken every night and morning, though in some aggravated cases another pill may be taken in the middle of the day. Thus a quarter of a grain of this preparation will be taken in twenty four hours without any inconvenience, though the same quantity in the form of solution might induce some serious derangement of the stomach and bowels. The employment of the medicine ought in general to be continued two or three weeks after the disappearance of the disease, in order to effect with more certainty a radical cure. As auxiliary to the above course, the decoction of guaiacum and sarsaparilla was employed, and attended with advan-

tage. On some occasions mucilaginous diluents and the use of opium may appear requisite to obviate any irritation excited by an over dose of the medicine.*

When topical applications are requisite, as in venereal sore throat, none is more serviceable than a solution of corrosive sublimate in the proportion of two grains to six or eight ounces of the decoction of cinchona, to which may be added three drachms of tincture of myrrh. The occasional application of lunar caustic, and the mercurial fumigation, will tend much to induce healthy granulations.

Arsenic is an article peculiarly adapted as a tonic and restorative in venereal ulcerations and sloughings. When the constitution is greatly reduced by a mercurial course, and the sores exhibit a vitiated aspect with erysipelatous inflammation, the materia medica does not afford a more prompt and efficient remedy. But with its great renovating powers it is also capable under mismanagement of producing very deleterious effects. There is, however, a certain signal by which the inexperienced prescriber may discern the limits of safety. Beginning with eight and gradually increasing to twelve drops of the solution three times a day, the attentive physician will in a few days ascertain its effects on the system by some degree of swelling about the eyelids, and a sensation about the face and eyes resembling the feeling of cobwebs passing over the skin. This may be regarded as a never failing sign that arsenic is an active operation, and that it will fulfil the views of the prescriber. If necessary, two drops may now be deducted from each dose, or a few doses may be omitted and afterward renewed. For very young children, from one to two drops will be found a sufficient dose. I am indebted to Dr. O. Prescott, of Newburyport, for some interesting communications relative to the use of arsenic. In vol. X. New-England Med. Journal, this gentleman has detailed a case of protracted syphilis in which arsenic effected a radical cure.

The nitrous acid has been given with considerable advantage in restraining the progress of the disease, and will at the same time improve the health and strength of the patient when the introduction of mercury into the system is inconvenient or improper, or when there is a considerable degree of debility, but it is not to be

* See farther particulars on this subject in Dr. Frances' Dissertation, and American New Dispensatory.

relied on for effectuating a permanent cure. There is yet to be mentioned a domestic remedy which may be well deserving of trial as an auxiliary at least in the cure of syphilis. It is the *phytolacca decandra*, described in the American New Dispensatory, and in the Appendix to this work. Some very respectable physicians who have experienced its use repose much confidence in its efficacy, esteeming it far more valuable than opium and guaiacum in answering the same intentions when taken internally. The extract made from this plant operates as a mild vegetable caustic, cleansing and healing foul ulcers better than any other remedies of that class. It is less irritating than lunar caustic, and may prove a valuable substitute as an application to chancres, venereal ulcers, and eruptions. These observations are intended to excite attention among those who have the most frequent opportunities of ascertaining the anti-venereal properties of this plant. The *sophora tinctoria* is another domestic plant whose efficacy as an external application has been satisfactorily ascertained. An infusion of the root of this plant produces excellent effects when used as a wash to venereal ulcers, or as a gargle in mercurial sore mouth. In Medical Sketches, by James Mann, M. D. it is stated that several most obstinate cases of syphilis occurred in the military hospitals in 1814, in which a course of mercury had failed, and which speedily yielded to the use of nitro-muriate of gold, one eighth of a grain in form of pills, every night and morning.

It is to be observed that in all the forms of syphilis, the female patients are to be treated with the same series of remedies which have been described in these pages; but women in a state of pregnancy, it is said, are incapable of being cured till after childbirth. Although under a course of mercury the disease may appear to yield, the virus is not destroyed, and soon after the birth of the child the symptoms re-appear, requiring a complete course of mercury to accomplish a cure. The treatment of infants affected with syphilis will be detailed under the head of diseases of children.

It has been a matter of controversy whether the fœtus in utero can be contaminated with the venereal disease; the fact seems, however, to be unquestionable, as it can be vouched by the experience of eminent practitioners. I must have been egregriously deceived if I have not more than once recognized syphilis in the new-born infant, and moreover, it may be affirmed that children when arrived at adult age, have exhibited marks of local venereal

affection, which must have been derived from their parents either in utero or during infancy. In some of the instances referred to, there is good reason to believe that the parents themselves had for several years been apparently free from all symptoms of the disease in question. The late Dr. Hey, of Leeds, Eng. was confident from nearly sixty years experience, that a man can communicate the disease after all its symptoms have been removed, and he is judged to be in perfect health; and that a mother who has once been affected may convey it, notwithstanding an apparent cure, to two, three, or four children in succession, each of whom he supposes will have it in a milder form than the preceding one. But a remarkable circumstance, which should serve as a salutary precaution, is related by Dr. Barry, of Cork. A woman who was in the habit of drawing the breasts of puerperal patients, had in the course of her vocation contracted chancres on her lips and roof of her mouth, and by her means the venereal virus was communicated to numerous females, who were affected in different forms, appearing first in the nipples; the pudenda soon after became inflamed, with violent itching, which terminated in chancres, &c. The husbands of several had chancres, which quickly communicated the poison, and produced ulcers in the mouth, and red spreading pustules on the body. Syphilis is indeed a bitter evil, and all its fruits are bitter.

The pseudo-syphilis is characterized by numerous symptoms so exactly counterfeiting those of real lues venerea, that the most experienced practitioner will find it difficult to discriminate. Mr. Abernethy has favoured the public with his interesting observations on the subject, highly deserving the reader's attention. This complaint on some occasions attacks those who are under a course of mercury for the cure of syphilis, and Dr. Scott advances the opinion that it is real syphilis combined with scrofula, and called into action by the mercury employed. This disease is not to be subdued by mercury, but chiefly by a decoction of the woods with sarsaparilla and opiates, or Fowler's arsenical solution. Dr. Scott has great confidence in the efficacy of the nitro-muriatic acid taken internally, and applied by way of bath, as he has recommended in jaundice, for which see page 502 of this volume. It sometimes happens that these complaints gradually disappear spontaneously, or by means of the most ordinary medicaments.

SCORBUTUS, OR SCURVY.

The genuine sea scurvy prevails most in cold climates, and chiefly affects sailors and such as are confined in close places, and whose diet consists principally of salted or putrescent substances; but more especially, if, to these causes, are added indolence, neglect of cleanliness, much fatigue, despondency, cold and damp air, and whatever depresses the nervous energy.

The first symptom in general is a soreness of the gums, which are affected with a spongy swelling, and bleed upon the least touch; there is great lassitude, heaviness, and difficulty of breathing, particularly after motion; the face becomes sallow and bloated, and the breath offensive: as the disease advances, purple or livid spots, resembling bruise marks and flea-bites, appear on the skin, and on the fleshy parts of the legs hard substances are felt; blood frequently issues from the nose, mouth, anus, urinary passages, and, sometimes, even from the pores of the skin; the legs near the ankles become œdematous, and the hands become contracted and rigid. The catching of the breath on motion, with the loss of strength, dejection of spirits, and putrid gums, are regarded as the distinguishing and characteristic symptoms of the disease. Persons on shore, who have not been exposed to the usual causes of scurvy, are sometimes affected with slight blotches and scaly eruptions on different parts of the body, and a sponginess of the gums, unattended by any more violent symptoms.

When the scurvy has been contracted by the long use of salted or putrid provisions, it will be most certainly removed by fresh vegetables, and the expressed juice of lemons, limes, oranges, apples, and other subacid fruits of every description; and it is worthy of remark, that the less the patient is confined to animal food for some time, the more speedy will be the recovery, unless, however, the strength of the patient is greatly reduced, and vegetables disagree with the stomach, when he may indulge in some animal food of the lighter kind, joined with vegetables, either fresh, or if not to be procured, then in a pickled or preserved state, such as celery, water cresses, scurvy-grass, cabbages, mustard, horse-radish, &c. The essence of malt or of spruce will often be found of considerable service as a medicinal drink; butter-milk and pure cider are also beneficial. As there is generally an obstruction of perspiration, this we should endeavour to remove by the use of

Dover's powder occasionally, or by means of camphor combined with nitre and opium; and as a free flow of urine is desirable, it ought to be encouraged by the use of some preparation of squills. To obviate costiveness without large evacuations, cream of tartar may be so directed, mixed in drinks, as to answer the purpose advantageously, or a moderate dose of rhubarb may be added. A solution of sal nitre in vinegar, in the proportion of from two to four ounces to the quart, has of late obtained much repute in this disease, and should always be given to the extent of two ounces or more three or four times in the course of the day. The sponginess of the gums will be removed by an astringent gargle of a decoction of Peruvian bark, or an infusion of red roses, with the tincture of myrrh, or alum. The contraction of the hams, and swelling and hardness of the legs and joints, will be relieved by warm fomentations of vinegar and emollient poultices, or by vapour baths, confining the vapour to the parts by means of blankets spread over them. For ulcers of the legs, a poultice of the wood-sorrel or the nitrous vinegar, will be the most proper application. A decoction of the Peruvian bark may sometimes be of use, but all greasy and oily liniments are found to be injurious. The greatest attention must in all cases be paid to cleanliness; moderate exercise ought to be enjoined, and the air should be corrected by fires and ventilation. The most effectual preventives of scurvy are fresh vegetables, exercise, and cleanliness, and the use of the nitrous vinegar; avoiding at the same time cold and moist air, and the depressing passions. It is a great happiness for our seamen that scurvy is much less frequent than formerly.

Class VIII.—LOCALES.

Order I.—TUMORES.

FUNGUS HÆMATODES.

The precise nature of this singular disease, appears to be involved in much obscurity. It generally occurs to persons who are debilitated by intemperance or depressing passions of the mind. "It is a bloody tumour which forms in every part of the body,

painful when seated in the muscles; but producing little inconvenience when in the cellular substance. It distends the integuments; but does not, like an abscess, render them thinner. When pressed with the hands, one part will give the sensation of a deep-seated fluid; in another, the tumour is hard and uneven. When the integuments burst, the appearances are sometimes those of an excoriation only; sometimes a dark, bloody mass protrudes through the aperture. Where the fungus comes into contact with the muscles, they lose their natural redness and their fibrous appearance, becoming brown, and like the adipose membrane.

"When the fungus appears through the skin, it bleeds copiously, and the hæmorrhage is frequently repeated until the patient sinks; neither the hydrargyrus nitratus ruber, the hydrargyrus muriatus, antimonium muriatum, or undiluted vitriolic acid, can repress its growth. Amputation is the only remedy; and if the tumour has begun at the lower part of a limb, and the slightest portion is left at the upper, the disease returns. It appears to be an organized, and is probably a living, parasitic animal, nourished by the vital fluid of the patient, and capable of absorbing from the subjacent vessels what is effused from its own."

SCIRRHUS AND CANCER.

A SCIRRHUS is commonly defined a hard unequal tumour, occupying some glandular part. At first there is neither pain, nor discolouration of the skin; it seldom acquires the magnitude to which all other tumours are liable to grow; it is generally more fixed, and less moveable than other kinds of tumours, and is generally harder and heavier. A scirrhous tumour may remain in an indolent harmless state for years, when not irritated by improper treatment. At length it gradually increases in hardness and size, and is attended with a peculiar kind of burning shooting pains, the surface becomes unequal, the skin puckers, and changes to the colour of brownish purple, or livid appearance, with a swelling of the veins, and a painful sensation in the neighbouring parts.

The puckering and dull leaden colour of the skin, the knotted and uneven feel of the swelling, the occasional darting pain in the part, its fixed attachment to the skin above and muscles beneath, form an assemblage of symptoms, which distinguish in the clear-

est manner, a malignant scirrhus, or confirmed occult cancer. In process of time, this tumour progresses to a state of ulceration, when it is called an open or ulcerated cancer. The disease is most incident to elderly persons, but no age is exempted from its effects. It has been known to attack, and destroy the eyes of young children. The parts most commonly affected with cancer, are the testes, breast, and face, but the lips and female breasts, more frequently than all the other parts of the body.

The causes which produce cancer are said to be long continued grief and despondency of mind; blows, bruises, or other external violence, and sometimes the suppression of some accustomed evacuations. It has frequently been known to take place in particular families, descending from parents to children. It is at that period when the menses cease, that cancer most frequently occurs in females. Unmarried women and those who have never born children are more the subjects of cancer than those who have nurtured children at the breast. It is a disease of middle or advanced life, from 40 to 50 years is perhaps the most frequent period at which it makes its appearance. Scirrhus in the female breast, when considerably advanced, is attended with pain which is increased at each recurrence of the catamenia and when the integuments begin to be puckered or drawn together in folds, the nipple will be sometimes retracted and sunk to the level of the surface, and one or more of the glands of the axilla become considerably enlarged. In the course of its progress, a cancerous tumour extends its limits towards the neighbouring parts by white ligamentous bands in the form of roots, or limbs, resembling in some measure the claws of a crab, from whence the name of cancer is derived. While the tumour increases in size, the skin assumes the various colours of red, purple, and livid, and finally with the surrounding veins distended with blood, change their colour to a black. The patient is cruelly tormented with a burning heat, and lancinating pain. The skin covering the tumour at length gives way, and a large hideous ulcer is formed, whose edges are ragged and unequal, reversed in different ways, being sometimes turned upwards and backwards, and often inwards in the form of a full blown rose. The whole surface of the sore is commonly unequal, considerable risings in some parts, in others there are deep excavations. The discharge is a thin dark coloured ichor, which often excoriates the neighbouring parts and the fetor which issues from the ulcer, is intolerable even to

the patient. The adjacent glands become affected with the disease, and new tumours are generated which communicate with each other. A violent burning heat and pain are universally felt over the whole ulcerated surface, and by the corrosion of blood vessels, which occur, considerable quantities of blood are sometimes also discharged. The strongest constitution is at length exhausted with pain and irritation, and made to yield itself a victim to this merciless disease. It may be remarked, that scirrhus is not invariably situated in a glandular part, nor does every hard glandular swelling partake of the nature of scirrhus, and terminate in cancer.

The doctrine which regards cancer as a disease of the general system, is still advocated by some men of professional eminence, while others, equally distinguished, view the disease merely as a local affection. This is a point of great importance as respects the mode of cure. The first measure to be enjoined in the curative plan, is for the patient to resign himself entirely to a milk and vegetable diet. As early as possible after a genuine scirrhus or cancer is discovered, the patient must abstain from every article of food or drink that can tend to heat or stimulate the system. Nothing but the bland nutriment which milk and whey, with a few vegetables afford, should on any pretence be allowed. It may be confidently asserted, that if this method be early adopted, and rigidly persisted in, even to the extreme of taking no more of this simple nutriment than is absolutely necessary for the support of life, it will afford a greater chance of a cure, than any medicine ever yet discovered. The mind ought in the mean time to be kept constantly as easy and cheerful as possible. Our utmost endeavours should be used to disperse scirrhous tumours in the female breast, on their first appearance; applications of a discutient and sedative nature, should be bad recourse to without delay. Mild purgatives will be requisite from time to time; topical bleeding frequently repeated by the application of a number of leeches to the parts near the tumour should be deemed an object of primary importance, avoiding the skin directly over the tumour itself, lest ulceration be accelerated. After leeches have performed their office, repeated blisters to the neighboring parts should be particularly attended to, and both must be duly persisted in unless when the integuments over the tumour are in an irritable and inflamed condition. In the earliest stage of the disease a light course of

mercury, conjoined with antimony, as in the form of Plummer's pills ought to be adopted, accompanied with the decoction of the woods; but mercury must be discontinued in case it excite inflammation in the tumour. Cicuta has long been extolled for its virtues in every stage of scirrhus and cancer, but its failures have, we believe, exceeded its successful results, although its advocates have pushed their trials to the greatest extent.

The mercurial ointment, to one ounce of which about a dram of camphor is added, should be well rubbed into the tumour daily, which will sometimes have an excellent effect in dispersing such tumours; but too frequently we are baffled in every attempt, and the healing art knows no remedy but complete extirpation.

In every instance therefore, of genuine scirrhus, unless some insuperable obstacles prevent, let the patient be conjured to assume a resolution superior to the terrors of the knife, and without delay submit to the dictates of some skilful operator.

If this advice be complied with in due season, before ulceration takes place, and the judicious operator is attentive to remove a considerable portion of the surrounding parts so as to include every vestige of ligamentous bands or roots which may be attached to the muscles, or fat, a large proportion of persons may confidently expect to receive a radical cure.

The general remedies which have been employed for the cure of cancer are of the narcotic tribe, as cicuta, belladonna, hyoscyamus, aconite and opium, all which, together with mercury and arsenic, may be rejected as utterly undeserving of confidence. Many of them have proved worse than useless, by occasioning delay, deceiving the patient, and resulting in fatal disappointment.

The carbonate, or common rust, and other preparations of iron, have of late been employed, and are highly extolled by Mr. Carmichael, of Dublin, for their efficacy in the cure of cancer. There is, however, much reason to suspect that the successful cases which he has adduced, were not all genuine cancerous affections.

Among the external preparations advised by Mr. Carmichael, is the sulphate of iron, one ounce of which is dissolved in a pint of water and applied to the scirrhous tumour two or three times in a day, by means of folds of linen, covering this with oiled silk to prevent the medicine from soiling the clothes. This is probably of doubtful efficacy, though worthy of trial.

It appears by the New-England Journal of Medicine, Vol. I. and II. that Dr. W. Gamage, of Boston, has on many trials experienced the most decided advantages from the carbonate and muriated tincture of iron in obstinate ulcers of the uterus and other parts, which by some would be denominated genuine cancers. It is therefore desirable that in every case of this description, the preparations of iron have a fair trial, and if successful, let the fact be recorded in letters of gold. The carbonate may be given in doses of from half a drachm to one drachm, thrice in a day, and the phosphate of iron should be given in doses not exceeding from five to ten or twelve grains, as in larger doses it creates nausea. The muriated tincture has also been increased from twenty drops to the extent of one drachm, with safety and advantage.

It yet remains to mention the remedies best adapted to obviate pain, and the intolerable fetor which is produced by the cancerous ulcer. Considerable benefit may probably be derived from the powdered rust, or a saturated tincture of iron in vinegar or old cider, if applied to the surface of the ulcerated parts. Poultices of raw carrots, grated and moistened, have superseded those formerly made of hemlock, and they are said to produce as much ease and diminish fetor more powerfully.

The poultices should be frequently renewed, and the ulcer kept perfectly clean by washing with soap suds or lime water. The carbonic acid gas applied to the sore, has been said to correct the fetor, and to produce other advantages. A poultice composed of bread and milk, with the addition of two ounces of finely powdered charcoal, is preferred by some for the purpose of correcting the fetor and acrimony of the discharge.

A poultice made by stirring into an infusion of malt as much oatmeal as will give it a proper consistence, and then add a spoonful of yeast, has also been found a useful. The hemlock poultice is made by boiling two ounces of the leaves in a quart of water till only a pint remains, when as much linseed meal as is necessary is to be added, or the hemlock may be used by way of fomentation. The ulcer may also be covered with some mild cerate, composed of lapis calaminaris or saccharum saturni; and the necessary doses of opiates should be occasionally administered. The root of the indigo weed (sophora tinctoria,) is reported to have rendered great service in various vitiated ulcers, and is probably deserving of trial in the form of lotion or wash. The various

forms of caustic preparations, consisting of arsenic and muriated mercury, as they never perform a cure, and often have a dangerous tendency, may be altogether dispensed with.

The extract of phytolacca decandra is one of the best caustic applications to cancerous ulcers, cleansing and healing better than any other vegetable or mineral caustic. But for the purpose of correcting the fetor and acrimony of the discharge, and soothing the pain which attends, I have experienced the best effects from the application of an infusion of the roots of sophora tinctoria.

I feel the incumbent duty in this place, to caution those who may be afflicted with this deplorable disorder, against the shocking imposition of ignorant quacks, who pretend to cure cancers by the use of caustic plasters. Their process is infinitely more painful than the operation of cutting with the knife, and instead of realizing the promised cure, the patient will assuredly meet a woful disappointment.

The following is among the numerous melancholy instances which can be adduced as a solemn warning to others. A healthy woman applied to me for advice respecting a small scirrhous tumour in her breast of several months standing. I viewed the case as a very favourable one for extirpation, and assured her that in my opinion, there was the fairest prospect of a radical cure if she would submit to the operation; observing at the same time that as the circumstances of her case were not immediately alarming, it might be deferred for consideration or further advice. On a second interview, she suggested the idea of applying to a man in Boston, who had advertised to cure cancers by drawing them out with plasters, as she dreaded the operation of cutting. Notwithstanding my earnest entreaties to the contrary, she finally resolved to try the hazardous experiment. After persevering in the use of poisonous applications for eight or ten days, a painful ulcer was produced, which soon extended over the whole surface of her breast. She continued under the distressing operation of plasters for six or eight weeks, when she became discouraged, and at length despairing of a cure, returned to her family in a most deplorable condition. The original tumour had so increased, as to occupy the whole breast, and was converted into a genuine ulcerated cancer, one or two tumours had formed under the armpit, and one in the opposite breast. She was exercised with the most tormenting pains, not only in the ulcerated parts, but in her limbs, and over

her whole body, which I could attribute to nothing but the poison of arsenic absorbed into the system by the use of plasters. I need scarcely add, that a few weeks terminated her miserable existence. I have strong reason to believe, that if no improper applications had been made, in this instance, the patient might have continued in comfortable health for many years; or if the tumour had been extirpated, a perfect cure would have been effected.

It not unfrequently happens that surgeons of the highest standing suffer embarrassment when called to the painful dilemma of deciding as respects the expediency of removing the mamma. The operation has, on some occasions, been attended with the happiest result, and lives have been rescued from destruction, but on other occasions the issue has been disastrous. When a scirrhous tumour has arrived to the condition of a carcinomatous ulcer of such duration as to afford opportunity for an absorption of the matter into the system, and especially if one or more of the axillary glands are enlarged and indurated, the judicious practitioner will scarcely feel justified in resorting to the operation of extirpating the breast as it would be attended with no permanent advantage. The three, last instances of this description which have occurred within a few years in this vicinity had a fatal termination; the last of which so harrowed my feelings that it can never be obliterated from my mind. The patient was a widow, the daughter of an aged physician, and mother of one child. Such were the peculiar circumstances of the parents and connections, as to render the life of this lady of the highest importance. The case was an ulcerated cancer of the breast of considerable standing, attended with indurated axillary glands. The medical council were Dr. N. Miller, Dr. J. Leonard, of Sandwich, and the present author. The circumstances of the case and the uncertainty of the final event of the operation, were communicated to the patient in the most candid manner, and the alternative submitted entirely to her deliberate determination, but vacillating between the ties of life and the appalling idea of the dreadful and yet uncertain means by which it was to be purchased, the medical council were detained two days for her ultimate decision. A sense of duty at length prevailed, and the operation was resolved on. The knife was wielded with an adroit hand and guided by a discriminating eye; the patient suffered with heroic firmness, while the attendants bewailed the sorrowful scene. The whole breast and parts adjacent with the axillary gland were

carefully removed. When placed in bed and the pain had subsided, she exclaimed "Oh! Sir, could I have foreseen such sufferings, I should rather have submitted to death." The result of this deplorable case was, that some favourable appearances were exhibited and encouragement afforded for a few months, but death had not relinquished its prey, her accumulated sufferings were renewed, and it is doubtful whether life was protracted a single day by the tremendous operation which she had undergone.

Cancer of the uterus attacks the patient about the period of the cessation of the menses. It begins with a sense of weakness, with pain or uneasy sensation in the loins, and bearing down, with a weight and fulness in the region of the pelvis, to which, sooner or later, acute shooting pains over the region of the uterus ensue. On examination with the finger the os uteri appears thickened and indurated, and on pressing the uterus upward it is found to be lower in the vagina than usual, and a sensible addition to its weight is perceived. When ulceration has taken place, there will be a constant discharge of an offensive sanious matter from the vagina. The os uteri will now be found more open, its edges ragged and irregular, and the vagina itself becomes hard and smooth on its inner surface. The whole system now participates in this dreadful affection, disordered functions and emaciation increase with rapidity, and a sort of hectic fever is constantly present. Cutaneous cancer occupying the lower lip, the angle of the eyes, the nose and penis, usually appears in the form of a small enlargement, or elevation on the skin, sometimes hard and horny or resembling a common wart, or in the form of a discoloured pimple covered with a scab. Cancer of the tongue most commonly commences with a small hard tumour on its upper surface, and in its different stages to ulceration is attended with that peculiar kind of darting pain characteristic of cancer.

Among the new devices for the cure of scirrhus and cancer, is that of Mr. Samuel Young, Surgeon, England. The principle upon which Mr. Y. institutes his plan, is that of producing absorption by means of specific and general compression. The process consists in the employment of plaster straps, sheet lead forming shields of various thicknesses, tin plates, linen compresses and appropriate rollers. The best composition for the plaster straps has been found in equal parts of the common strengthening and soap plasters, mixed and spread somewhat thickly on linen. The plaster should

be perfectly smooth and all wrinkles should be avoided. The mode of applying pressure to scirrhous and cancerous tumours is by the employment of the metallic plates, or shields applied over particular points which are the most projecting, hardest, and of longest continuance, while compresses placed upon the other parts will ensure an uniform compression. In beginning the process, the plaster straps are only to be used either in single or double layers, according to the effects on the patient. The pressure must of course in the first instance be slight; and it must afterwards be controlled by circumstances. The degree of force which may ultimately become necessary and supportable is prodigious, according to the representation of the author. The removal and re-application of the roller, or straps, or both, will depend on their becoming loose. They will in this case irritate the part and the patient will experience a return of those sensations in the tumour, which were present before the treatment was begun. Ulceration, or tender state of the skin, is no objection to compression. If such a state exists, it is recommended to dust the part thoroughly with powdered chalk, or hair powder. Irritable parts should be defended by gold-beaters' skin. Generally speaking the application of pressure has been found to relieve pain, and that in the most exquisite and actively painful states of cancerous affections. Mr. Y. has published a considerable number of cases in which his mode of treatment has been put in a practice, proportion of these cases were permanently cured, or their distressing circumstances greatly ameliorated. In other hands also, there have been both failures and successful results. (See communication by W. Channing, M. D. N. E. Journal, Med. and Surg. vol. X.)

ORDER II.—HERNIA.

THE various kinds of ruptures are distinguished by different appellations according to the contents of the tumour and the situation of the parts in which they make their appearance. The parts in which hernia most commonly appear, are the groin or labium pudendi, called *bubonocele*, or *inguinal hernia;* when it protrudes into the scrotum it is termed *scrotal hernia.* If in the upper and fore part of the thigh it receives the name of *crural*, or *femoral*

hernia. When the bowels protrude at the navel the case is named an *exomphalos*, or umbilical hernia. The contents of the tumour are a part of the intestinal canal or a portion of the omentum or caul, or both together. The most frequent causes of this disorder, are in children, crying, coughing, or vomiting; in adult persons, blows, violent exertions of strength, as lifting or carrying heavy weights, straining at stool, parturition, jumping, running, &c. When a rupture is produced by bodily exertion, the tumour is formed suddenly, and is generally attended with a sensation of something giving way at the part and with considerable pain. If it come on in consequence of a laxity of the constitution, the tumour is small at first, and the protruded parts return into the abdomen when the patient is in a recumbent posture, or may easily be reduced with the hand.

A rupture that is reducible and free from strangulation, appears in the form of an elastic indolent colourless tumour, subject to change its size, being smaller when the patient lies down on his back, and larger when he stands erect. The tumour frequently diminishes when pressed, and grows large again when the pressure is removed. When persons labour under this description of hernia, although they may remain for some time free from severe pain or distress, their condition is nevertheless such as to require much attention, as neglect or mal-treatment may be attended with fatal consequences. When the protruded parts are found to be irreducible, and considerable pain and inflammation ensue, the case becomes an *incarcerated* or *strangulated hernia*, the peculiar symptoms of which are, the tumour is very tense, painful to the touch and resisting the impression of the fingers, sickness and vomiting soon follow, and a suppression of all discharge by stool, attended with a frequent hard pulse and febrile heat. Under these alarming circumstances every possible effort should immediately be made to effect a removal of the stricture, and a restoration of the relapsed bowels, or a mortification must inevitably ensue. The first attempt is always to be by the taxis, or the operation of reducing a hernia by the hand. For this purpose the patient should be placed on his back, and the foot of the bed be elevated about twenty inches higher than the head, the thighs should be bent towards the body, and that on the same side with the rupture inclined inwards, by which position the muscles of the abdomen will be relaxed. By some we are desired to place the patient on the

side opposite to that of the rupture, which may be tried. The pressure which is made on the tumour by the hand of the operator for its reduction, should always be directed upwards and outwards in inguinal hernia; and first backwards and then upwards in femoral hernia. The efforts may be continued about half an hour, but no violence ought on any account to be used, as it will tend greatly to aggravate the inflammation, and when the pressure becomes painful it should be discontinued. Should the taxis fail of success, the patient should be immediately bled from a large orifice if nothing forbid, and then another trial be made, and on failure of this also, resort be had to the warm bath, and the taxis repeated while the patient lies in the water. It has been my practice to pour gradually over the tumour from one to two ounces of æther, and allow it to evaporate. When the smarting which it produces becomes insupportable, I pour on cold water for a minute or two and then repeat the æther. The three last cases which have fallen to my lot were cured within half an hour by the application of this remedy alone. The next remedies to be employed are the coldest applications to the tumour, as pounded ice included in a bladder, or when this cannot be procured, a mixture of equal parts of nitre and sal ammoniac, in the proportion of ten ounces to a pint of water, should be tried by a constant application of it to the tumour. In conjunction with these means, opiates may be useful, but the sedative effects of tobacco clysters will probably be more effectual; the smoke of tobacco has commonly been employed, but the decoction on account of its more convenient administration, should be preferred; one drachm of tobacco boiled for ten minutes in a pint of water, is the proper proportion. One half of this quantity only should be injected at a time, and the remainder after it shall be found that the first does neither succeed nor operate with such extraordinary violence as to produce a dangerous depression of the system, as Mr. A. Cooper has seen two drachms, or even one when introduced at once, prove fatal. Some or all of the above mentioned remedies should be employed with the utmost assiduity, as no time should be lost in this very hazardous disease. If the strangulated parts are not relieved and the return of the intestine effected in a short time, often in a few hours, all the symptoms become greatly aggravated, still more alarming circumstances supervene, and unless relief be obtained by the only remaining resort, a surgical operation, a mor-

tification and death will inevitably close the scene. "There are some cases," says the experienced Mr. Hay, "so urgent that it is not advisable to lose any time in the trial of means to produce a reduction. The delay of a few hours may cut off all hope of success, when a speedy operation might have saved the life of the patient." Resort therefore, to a surgeon competent to this important operation, should in no instance be delayed beyond the first twenty-four hours.

With the view of guarding against the dreadful consequences of a strangulated rupture, every person subject to hernial complaints should immediately procure a well adapted elastic spring truss, which should be worn night and day without intermission. Very much of the utility and safety of a truss depends not only on its being properly constructed, but also on its being fitly adjusted to that part of the body where the hernia is situated.

A great variety of trusses, formed on different principles, have been from time to time introduced to public notice, but with one exception, it may be asserted that, they have been found altogether deficient in those just principles upon which such instrument ought to be formed. It is within a few years that a truss has been invented by Dr. A. G. Hull, a very respectable surgeon and physician of New York, and late president of the Oneida Medical Society, which is incomparably superior, in its principles and properties, to any of those previously in use. Dr. Hull is exclusively entitled to the credit of first adopting the true surgical principle for the radical cure of hernia. He happily conceived the idea that the pad of the truss should be so constructed as simply to support the muscular fibres around the ring or aperture, as much as possible in the state in which they are maintained in perfect health. Unless this be attained the parts never can recover their natural tone, whatever may be the degree of pressure applied. This great desideratum is admirably accomplished, by giving to the pad of his new invented hinge-truss a *concave* instead of a *convex* surface, by which it corresponds to the convexity of the abdomen. By this construction it is evident that the greatest degree of pressure is applied to the circumference of the aperture, which tends constantly to approximate the hernial parietes, and afford them a mechanical support. The popular truss of Salmon and Ody, &c. though possessing many advantages over the ordinary trusses, having a *convex* pad, must of course press constantly upon the ring, and tend

to enlarge the dimensions of the rupture opening, and act as an effectual barrier against the desired union of the parts. It is now universally allowed that "Dr. Hull's hinge truss is constructed upon principles different from any truss hitherto in use, and is supposed to be perfectly original; that it embraces advantages not to be met with in any other truss, being, 1st. The peculiar shape of the pad, which in the truss of Dr. Hull is *concave* instead of *convex*, as it is in other trusses: 2d. The peculiar connection between the spring and pad, being a combination of the hinge and pivot joint: 3d. The peculiar application of the pad and its accompaniments to the spring by means of the slide motion, and the facility with which the pad may be fixed to any part of the spring: 4th. The peculiar construction of the double Inguinal truss, being simply the addition of another pad attached to a short elastic metallic plate; this plate with its pad, move on the same spring, by the same power of adjustment and fixture as the first pad, the pressure of the pads being graduated at pleasure by an intervening cork wedge." Many other advantages peculiar to Dr. H.'s truss might be noticed, but we have not room to describe them here;—it has now been in use several years, and the correctness of the principle upon which it is constructed has been abundantly tested by experience. Numerous instances have occurred in which hernia has been cured by it, which had proved intractable to other trusses. Under the use of this instrument, Dr. Hull has not known a single case of hernia, in children, that has not been cured in less than 18 months, and few have exceeded six. The general conclusion which he forms in relation to cases is, that the *complete cures which are effected on persons from* 40 *to* 75 *years of age, may with safety be computed at an average of one to three, and universally in children.* Contrary to the general opinion of surgeons, Dr. Hull has found, by experience, that in most cases there is no necessity for continuing the application of the truss during the night. Since, therefore, Dr. Hull's truss has received universal approbation and preference, no other need be mentioned in this work.

Mode of Application.

After having stated the manner in which we conceive this truss produces its effects, and the authority in testimony of its superior utility, we deem it important to make a few remarks, particularly

regarding its application. This is the more indispensable, since surgeons, who alone are sufficiently acquainted with the different species of the disease, the anatomy of the parts, and the proper adaptation of the truss, have abandoned their charge to apothecaries, and men entirely ignorant of the complaint. We also find that the most ingenious surgeons, misguided by the instruments formerly in use, and forgetting the important principle, that the pressure should be made perpendicular to the rupture, have very frequently applied them upon the wrong side of the patient. In this manner the spring projects some inches beyond the body, (unless it is much smaller than it should be when properly applied) making a very unseemly appearance, and by flinging the pressure upon the edge of the pad, destroys the principle of the instrument. For the purpose of rendering these instruments less liable to be wrongly applied, these remarks are accompanied with a plate representing them as adapted to the different species of hernia.

H—represents the umbilical truss.

A—the situation of the rupture pad in umbilical hernia, resting with its centre directly over the rupture opening. The spring of the pad passes close to the side, as represented by the plate.

D—represents the situation of the back pad upon the centre of the spine in corpulent persons, but a little beyond on spare or emaciated.*

I—is a representation of the Double Truss, when upon the body the principal part of the pressure is made upon the end pad, C; that should, therefore, be applied to the worst rupture. The degree of pressure upon the second pad, B, is regulated by a cork wedge, which is made to slide between the main spring, and small spring, to which the second part is attached. The application of this Truss is represented by the letters K B C. The back pad resting upon the sacrum, as shown by the letter E. The rupture pads should apply immediately over the rupture opening, the lower edge just touching the edge of the pubis. The spring should pass in a horizontal line, and be neither so large as to be inconvenient, or so small as to press upon any part of the body. The force of the spring should be sufficient to keep the gut always reduced. The greater pressure the patient can bear, the more perfect is his security, and the greater prospect of a radical cure.

* Except in cases where the greatest pressure is required, the counter pad should be made to rest on the muscular cushion on each side of the spine.

G—represents the single Ing. Truss; it differs in no respect from the double, without the addition of the second pad. If the rupture be in the right groin, this Truss comes on from the left side, as represented by K. And the same Truss reversed for a rupture in the left groin.

Fig. F—represents the instrument as applied in femoral hernia. The curve in the spring at F, is for the purpose of dropping the rupture pad lower in the groin, while the back pad retains the position E. In these cases it will be generally found necessary to turn up a little the upper and lower edge of the pad to prevent its chafing the integuments of the abdomen and thigh.

If proper attention is paid, it will not be difficult to mistake the application of this instrument. The one first applied may not be the best adapted, but the opportunity afforded of trying the several degrees of pressure will at least secure the rupture, if it does not go to the extent of cure.

ORDER III.—DIALYSES.

ULCUS, OR ULCERS.

ALTHOUGH an essay on ulcers is peculiarly the province of surgery, it might be considered defective were not some reference to the subject to be found in this work; but neither time nor room will permit of more than a few cursory remarks relative to the mode of treatment of such ulcers as daily fall under the observation of the medical practitioner. When ulcers are of a recent nature, our endeavours should be directed to the promotion of the healing process as speedily as possible, but when of long standing, especially in persons of advanced age, the drain having become habitual, appears to be necessary for the preservation of the general health. Ulcers of this description cannot with safety be suddenly healed, unless some artificial drain be substituted and proper purgatives administered. There is some truth in the common adage, that a sore is the old man's best friend, and it is, in my opinion, an interesting truth, that a deprivation of such friend has too often been followed by a sudden deprivation of existence. In simple ulcers of a recent nature, the healing process is easily accomplished without much aid from the hand of art. We have on-

ly to exhibit our skill in avoiding an interference with the efforts of nature; the most simple ointment of wax and oil, with a light bandage, properly applied, will be amply sufficient. But when we have the management of the fœtid, foul, vitiated ulcer, with callous edges, broad surface, with granulations or fungous flesh rising above the skin, our particular attention will be requisite. The fungus and callosity must be repressed by escharotics, as the nitrate of silver, the red oxyde of mercury, the sulphate of copper, or what is equal to either, the sanguinaria canadensis, reduced to a fine powder and sprinkled over the sore. The fœtor and acrid discharge may be corrected by frequent washing with a decoction of the root of indigo weed; but on some occasions there may be a call for the bread poultice with charcoal, or a poultice of the pulp of boiled carrot. But Mr. Baynton has had the good fortune to present to us a process which has seldom been known to fail of a cure, even in the most obstinate cases. His view is to bring as nearly as possible the opposite edges of the ulcer in contact, and confine them in that situation. The ulcer being on the leg, the hair should be shaved off. He then prepares a plaster consisting of four ounces of diachylon and half a drachm of yellow resin; this, when beginning to cool, is to be carefully spread on pieces of calico; the edges being cut smooth, the plaster must be cut into slips of from two to three inches in breadth, and of such length as will pass round the limb and leave an end of about four inches. These slips are to be applied in the most precise manner round the limb, drawing them with as much gradual extension, and approximating the divided edges as much as the patient can bear. The slips of plaster should cover the whole surface of the sore, and reach at least an inch above and below its edges. The whole of the affected parts should then be defended with pieces of soft calico two or three times doubled, and very evenly applied, and a calico bandage of about three inches in breadth should be applied with as much firmness as can be borne by the patient, beginning at the foot and ankle, and carried by regular and smooth turnings round the limb till it reaches the knee. The whole of these coverings should now be thoroughly wet with cold water poured on, and repeated as often as they become dry; and the patient may walk about at his pleasure. The whole dressings may be removed and again renewed once in twenty-four hours.

BURNS AND SCALDS.

The degree of danger with which these accidents are attended, depends more on their extensiveness over the surface than on the violence of the injury suffered. A burn, for instance, that is so violent as to destroy the life of the muscular parts down to the bone, if not large, is far less dangerous than a scald which is entirely superficial, if it be very extensive. Much of the curative process also depends on the speedy application of the proper remedies, so as to allay the violent anguish, and to prevent, if possible, that extensive vesication and inflammation consequent to injuries by fire.

The part scalded or burned should, without a moment's delay, be plunged into the coldest water that can be procured, or the water should be constantly applied by means of linen cloths, and continued till the violent pain has entirely subsided, and as often as the pain returns the same application should be assiduously repeated. Another excellent application to recent burns and scalds is vinegar; this may be used in the same manner as cold water, and in slight injuries, either of these assiduously applied will soon effect a cure. If large blisters arise on the part, they should be opened that the vinegar may act immediately upon the burnt flesh. In the cold weather of winter the vinegar may be made about blood warm, and although some pain will be excited, it is strongly recommended to persist in its use. After a few hours continuance of cold water or vinegar, we are advised by some to employ a liniment composed of equal parts of lime water and linseed or olive oil, but as I conceive, the volatile liniment is a remedy greatly to be preferred; indeed, this last will be found a very eligible application as a common dressing from the beginning, being spread over the surface of the sore with a feather, and covered with lint or a linen cloth; the smarting pain which it will at first occasion, will be of temporary continuance, and an agreeable soothing sensation soon follows. A decoction of the root of sophora tinctoria, applied as a lotion, is excellently adapted to abate inflammation and dispose the sores to heal. But in most cases of burns and scalds attended with severe pain, permanent relief is only to be obtained by such means as tend to promote suppuration, and with this view emollient poultices composed of the mucilage of slippery elm bark,

thickened with bread or meal, and covered with sweet oil, are of indispensable utility.

When matter is formed on the surface, the sores may be covered with chalk finely powdered, till it has absorbed the matter and appears quite dry. A poultice, or the stramonium ointment, should be laid over the chalk, and the same dressings repeated morning and evening till the sores begin to heal, when the cicatrization may be completed by the employment of the cerate of lapis calaminaris, or the saturnine ointment.

When the injury is of a very extensive nature, and much febrile heat ensues, the antiphlogistic plan must be pursued, gentle laxatives and refrigerants should be employed, and opiates to allay pain and irritation. If the parts become livid and black, and there is reason to be apprehensive of a mortification, the cinchona and wine must be immediately administered internally, and the sore should be kept constantly moistened with a decoction of sophora tinctoria, and recourse must be had to all the usual means of obviating mortification.

If the burn is occasioned by the explosion of gunpowder, and some of the grains are forced into the skin, they should be picked out as soon as possible after the accident, as they excite irritation and leave marks during life. Cotton wool, when applied to recent burns and scalds, is said to have proved beneficial, and I have witnessed one instance of its good effects. It is to be spread over the whole surface of the injured parts, and suffered to remain for several days, when it may be removed with perfect ease, and the sores will often be found nearly healed.

A plan of cure precisely the reverse of that just described, has been introduced and strenuously advocated by Dr. Kentish. His principles are, "that any part of the system, having its action increased to a very high degree, must continue to be excited, though in a less degree, either by the stimulus which caused the increased action, or some other having the nearest similarity to it, until by degrees the extraordinary action subsides into the healthy action of the part." It might seem not inconsistent with his doctrine to have recourse to actual fire or the hot poker, as the best mode of relief, but Dr. K. relies on alcohol, made more stimulating by the addition of essential oils, to be applied heated to as great a degree as the sound parts can bear without injury. He directs the injured parts to be bathed two or three times over with spirits of wine,

either with or without camphor, or spirits of turpentine heated by standing in hot water. After this, a liniment composed of the common yellow basilicon, softened with spirits of turpentine, is to be spread on a soft cloth and applied. This liniment is to be renewed only once in twenty-four hours, and at the second dressing the parts are to be washed with proof spirit, or laudanum made warm. When a secretion of pus takes place, milder applications must be made till the cure is effected. Dr. K. thinks it of importance that the injured surface should be left uncovered as little as possible, as the air has an injurious effect. He advises powdered chalk to be used to repress the growth of exuberant granulations and to absorb the pus. Our author is also of opinion that internal stimulants should be administered in proportion to the degree of injury during the few first days, or till suppuration takes place, when it will be no longer necessary to excite the system. Dr. K. observes, that by his mode of treatment the inflammation will in general be found to disappear at the end of forty-eight hours, when the dressings may consist of camphorated oil, Goulard's cerate, or the cerate of lapis calaminaris.

The theory of Dr. K. is viewed as visionary ; it must not, however, be dissembled that his practice has been successfully adopted and warmly approbated by some practitioners of great eminence. The success of the cooling method of cure is also corroborated by the highest medical authorities, and it may be asserted that this last still holds almost universal preference. All extremes should in these cases be avoided, and a medium course, varied according to particular circumstances, may perhaps be deemed the most eligible.

In confirmation of the superior efficacy of cold water in scalds, I offer a striking instance communicated in a letter from Rev. Dr. T. Alden, President of Alleghany College, to Professor Hosack, who presents it to be inserted here. A boy aged 4 years, near Meadesville, fell into a vessel of boiling water in such a manner that the upper part of his thighs, groin and lower part of his belly, were fully immersed. He was instantly taken out, and on removing his clothes, his skin in sundry places came off in rolls. The genitals were supposed to be injured beyond the possibility of cure. The mother, Mrs. Neal, a woman of uncommon intelligence, had recourse to an application which she had known to be efficacious in some similar cases. She prepared a tub of sufficient dimensions

and sat the child in it, and commenced pouring cold water upon the parts affected, and continued this operation without ceasing for *twenty-one hours*, when the patient was removed from his cold bath. In a day or two after, there appearing to be much redness in the parts whence the excoriation had taken place, Mrs. Neal applied some linseed oil. In one week, the little boy was as well, as lively, and as active as he had ever been. His flesh was perfectly smooth and sound where the skin had not been rubbed off. No suppuration ensued! If it had not been for the application of the cold water, it is thought that the child could not have survived. The mother is fully persuaded that if the cold bath had been continued three hours longer, there would have been no occasion for the linseed oil. In ancient times, adds the writer, such a cure would have made a conspicuous figure in some temple of Æsculapius. This may be considered as a remarkable example of firmness and persevering efforts in disastrous circumstances, and Mrs. Neal is amply rewarded by a consciousness of being instrumental in preserving the life of her child.

Order IV.—TYCHICA.

POISONS.

It is extremely proper that every person should be made acquainted with the nature of poisons, and the means of counteracting their deleterious effects. Poisons are divided into mineral, vegetable, and animal, to which may be added the ærial poisons.

Among the mineral poisons, *arsenic* is the most corrosive and fatal in its effects. The symptoms which arise in consequence of swallowing this poison, are a burning heat, and violent pricking pain in the stomach and bowels, accompanied with extreme thirst, and an inclination to vomit. The tongue, mouth, and throat, are rough and parched, and an unquenchable thirst prevails, with great anxiety and restlessness. If relief be not soon obtained, and if the quantity of the poison swallowed be considerable, these symptoms are followed by faintings, hiccough, with coldness of the extremities, and the discharge of black fœtid matter from the stomach and bowels, indicating a mortification of the intestines, and approaching death.

In this dreadful situation, the utmost exertion should be made to relieve the stomach of the corrosive poison. A strong solution of white vitriol, or proper doses of ipecacuanha, should be administered in such quantities, and at such intervals, as will be found necessary to excite a very copious vomiting. The patient must drink very large quantities of milk and honey mixed, of warm water, lean broths, and barley water, with gum arabic. It has been discovered that oils, and all unctuous substances, add activity to arsenic, and greatly increase the danger; they should, therefore, be avoided. Clysters of the same materials ought likewise to be injected in so copious a manner as to fill the whole tract of the alimentary canal with soft emollient liquids, both to dilute and to sheathe the poison. A dose of castor oil, or Glauber's salts, should be occasionally interspersed, but a rigid persistance in the use of some of the above mentioned emollient liquids, will be requisite for several days, as no other remedies can be equally useful. Instances may however occur, in which a full habit of body, strong and full pulse, and severe pain will justify bleeding to a certain extent, as the judgment of the experienced physician may direct. According to Dr. Hannemann, nothing is more efficacious in this deplorable case, than half a pound of white soap dissolved by boiling in a quart of water, and sweetened with honey. Half a tea-cup full of this solution should be taken every five minutes, that the patient may swallow several pounds in the course of two hours.

It has recently been ascertained that when corrosive sublimate has been swallowed, it may be readily decomposed and resolved into an inert mass by albumen or the whites of eggs. These should be swallowed in very large quantities until the powers of the poison are entirely destroyed. Sugar or syrup, if swallowed in very large quantities, is a complete antidote to the poison of copper or verdigrise, by chemically changing its properties, and active purgatives should afterwards be administered. A strong solution of muriate of soda, or common salt, freely swallowed, proves an effectual antidote to the poisonous effects of nitrate of silver. Sulphate of soda, or sulphate of magnesia, destroys in a great measure the deleterious effects of the acetite of lead or other preparations of that metal. When tartar emetic or other antimonials have been taken in excessive doses, some powerful vegetable astringent, as a decoction of bark, or galls, will do much in

preventing their fatal effects. As an antidote or corrector to the mineral acids, calcined magnesia, in large quantities, is the most efficacious.

The *vegetable poisons*, which most frequently exert their deleterious effects, when taken by mistake, are the stramonium or thorn apple, and the atropa belladonna, or deadly night-shade, the seeds and berries of which, are sometimes eaten by children; some species of mushrooms, hemlock or cicuta; aconite or monkshood; henbane or hyoscyamus; water hemlock or cicuta maculata; foxglove or digitalis purpurea, and opium. All the poisons of the vegetable class, seem to produce their fatal effects by their narcotic or stupifying properties. The chief symptoms which they produce are, a staring wildness in the eyes, confusion of sight, palpitation, giddiness, loss of memory and voice, stupor, or fury, vomiting, and convulsions. "An instance occurred of eight persons in one family, suffering the noxious effects of stramonium, the leaves of which had been eaten at table, mixed with other vegetables. They exhibited a scene scarcely to be described, and formed a group, in which were displayed the various grades from idiotism, to mania; such as torpor, or abolition of sense, slow pulse, vertigo, tremour, wild delirium and raving, with glaring eyes, and dilated pupils. They all recovered in about twenty-four hours by the use of strong emetics."

The most effectual antidotes against these poisons, consist in a speedy evacuation of the offending substance from the stomach. Immediately on its being ascertained that any of these poisons have been swallowed, about twenty or thirty grains of white vitriol, if an adult person, may be dissolved in warm vinegar and water, and the dose repeated every quarter of an hour, until a thorough evacuation be produced. The vomiting must be accompanied with large draughts of warm water, and olive oil, fat broths and gruel. In the mean time, emollient clysters must be injected, until the offending cause be entirely removed. The vegetable acids, as vinegar and the juice of lemons, or limes, have likewise been found serviceable in correcting what remains of these substances in the stomach, and they should be freely given. In order to rouse the patient from a state of torpor, blisters between the shoulders, sinapisms to the feet, and keeping the body as much as possible in motion should be directed.

There is a species of *rhus*, or swamp sumach, commonly known by the name of poison dogwood, which is capable of communicating its poisonous effects to the skin, by means of contact, or by smelling of it, or even by the smoke, or the steam from a decoction of the shrub. In about forty-eight hours an inflammatory eruption appears on the surface of the skin, attended by pain, swelling, blindness, itching, and fever. A man having incautiously expressed a quantity of the juice of a species of this shrub, was soon after seized with violent inflammation, and eruption over the whole surface of the body, with swelling of the head, and blindness, resembling the most malignant kind of small-pox, which occasioned the loss of his hair and nails, and it was several weeks before a cure was effected.

There are some constitutions which are incapable of being affected with this species of poison. The remedies to be applied in these cases are bleeding, when the symptoms are violent, and cathartics of neutral salts. The application of cold water, or a solution of crude sal ammoniac, or the spirits of sal ammoniac, diluted with water, a weak solution of corrosive sublimate, or of the sugar of lead, as a wash to the parts, will soon effect a cure.

When *opium* has been taken in too large quantities, either by mistake, or for the horrid purpose of self-destruction, the alarming symptoms induced, are vomiting, delirium, stupor, deep and difficult breathing, convulsions and death. The remedies are, in the first instance, powerful emetics of white vitriol, twenty grains of which should be immediately given in a glass of warm water, and repeated every ten minutes, until copious vomiting is excited. Warm water is then to be freely given, and a smart purgative of jalap, with a few grains of salt of tartar administered. Frictions with salt should be thoroughly applied over the whole body, and the nostrils should be stimulated with the spirits of hartshorn, or of sal ammoniac, and blisters between the shoulders, and on the extremities applied. In short, every possible effort should be made to rouse and irritate the patient, so as to counteract the effects of the poison. Both the animal and vegetable acids will be useful, as also the saline draught, and they should be liberally employed. But no internal medicine is to be preferred to a solution of volatile sal ammoniac, a table-spoonful of a strong solution of ammoniac, often repeated, it is affirmed, has a wonderful effect in obviating the torpor of the stomach, and stimulating the whole system. When

symptoms of apoplexy are present, and great morbid action from the excess of stimuli is manifested, Dr. Rush advises copious blood-letting, having himself cured four patients by this remedy. As soon as the stimulus of the opium appears to be subsiding, and the system discovers marks of sinking, a new stimulus becomes highly necessary, and the frictions with salt, and the solution of ammoniac, must be persevered in, and brandy or other ardent spirits should be freely given, and at length gradually discontinued.

The poison from the bite of rabid animals, has been noticed in the preceding pages; but another species of animal poison, to which we may be exposed, is that of the rattlesnake and viper. The remedies generally applied in these cases are, in the first instance, to cut out the bitten part, or to suck out the venom by the mouth, which may be done with safety provided there is no soreness about the mouth at the time. The remedies supposed to be the most efficacious in these cases, are the volatile sal ammoniac, or other alkaline salts, given as soon as possible after the bite, and as freely as the stomach will admit, repeating the dose every few minutes, as the danger increases with the greatest rapidity. The wounded part must also be constantly moistened with the solution of the same medicine. Instances of this kind have been reported of cures effected by the use of olive oil, when taken freely internally, and thoroughly applied to the wounded part.

One instance of this poison occurred to my observation in the year 1776; a soldier was bitten by a rattlesnake on the hand; the effects were astonishingly rapid. In a few moments a swelling commenced, attended with severe pain. It was not more than half an hour when his whole arm to his shoulder was swollen to more than twice its natural size, and the skin became of a deep orange colour. His body on the same side soon became affected in a similar manner, and a nausea at his stomach ensued. The poor man was greatly and justly alarmed; his situation was distressing and very critical. Having procured a quantity of olive oil, we directed the patient to swallow it in large and repeated doses, till he had taken a quart, and at the same time we rubbed into the affected limb a very large quantity of mercurial ointment. In about two hours we had the satisfaction to perceive the favourable effects of the remedies. The alarming symptoms abated, the swelling and pain gradually subsided, and in about forty-eight hours he was happily restored to health.

We learn that the huntsmen in Missouri who are greatly exposed to the bite of rattlesnakes, find an effectual remedy in the roots of phytolacea decandra, or poke, boiled to a soft pulp and immediately applied to the wound by way of a poultice. This remedy has so long and often been tested that it is now in general use, and is constantly relied on for safety.

The stings of bees and hornets may be cured by the application of warm olive oil, or common salt dissolved in water or vinegar.

The *Maranta Arundinacea*, or arrow root plant, is highly valued as an antidote to animal poison. It has its name from the Indians, who heal with its juice wounds, inflicted by poisonous arrows. It is a native of South America, the West Indies, and Georgia. The bite of the *Scolopendra* or *Centum Pes*, which is almost as venomous as the sting of a scorpion, has often been cured by the application of the maranta, which flourishes most where these noxious insects abound. It also effectually counteracts the fatal effects of the deadly night shade, (Atropa Belladona,) which is perhaps the most powerful of the vegetable venoms. Six slaves, in the West Indies, swallowed some spirits from a bottle which had been stopped with the leaves of the deadly night-shade. Four of them died shortly after by the effects of the poison. The remaining two were saved by applying liberally the juice of the maranta arundinacea. The juice of the young plant is the antidote. (Jacob Green, A. M. Phila.)

The stings of bees and hornets may be cured by anointing the parts with warm olive oil, or vinegar. Should the stings however be so numerous as to excite very considerable inflammation, poultices of bread and milk, or of flax seed, with sweet oil must be applied to the part; and the patient will perhaps require bleeding, and a dose or two of Glauber's salts. For Ærial Poisons, see Noxious Vapours, p. 522.

VERMINATION, OR WORMS.

It is a prevailing opinion with many respectable physicians, that worms necessarily exist in the bowels of every child after it is weaned, and are conducive to health. And by others it has been contended that worms are the effect of sickness, and are only to

be found in the bowels of such children as are debilitated by bad management, or by some acute disease. This is, however, a fact, confirmed by daily observation, that both children and adults, frequently evacuate a number of worms about the termination of a fever, or some other illness which has induced great debility. Worms are of different kinds, but those most commonly found in the human body are the small white worm, called *ascarides*, which occupies that portion of the intestinal canal denominated the rectum; the long round worm, named *teres*, and the tape worm, or *tænia*. This last is flat, consisting of many joints, and is usually of considerable length, sometimes extending to thirty or forty feet in adult persons.

There are no infallible symptoms by which the presence of worms in the bowels can be readily distinguished; for any intestinal irritation, or morbid affection of the bowels will be attended with similar appearances. But it is believed by the commonalty, that the greatest number of children's complaints arise entirely from worms; and this belief has been encouraged and strengthened by the bold assurances of quacks, who seize upon the easy credulity of nurses to vend their dangerous nostrums and anthelmintic lozenges.

Dr. Hosack has long been in the habit of considering those cases in general which are ascribed to worms, among the symptoms of dyspepsia; and very rarely as constituting an idiopathic disease. Instead of the various anthelmintic medicines for the removal of worms, his only prescriptions are, after an active cathartic of jalap and calomel, and the removal of all febrile symptoms, to put the patient upon the use of the elixir proprietatis, in doses sufficient to keep the bowels soluble; say from two drachms to half an ounce, in sweetened water, every morning fasting, for three days successively; renewing it afterwards as occasion may require. He then directs, if the child be greatly debilitated, the use of the carbonate of iron in combination with a small portion of ginger; eight or ten grains of the former with two of the latter, twice a day, in syrup.

Notwithstanding the symptoms of worms are equivocal, it is our duty to point out such as are more constant and less uncertain. The ascarides produce such a degree of itching about the anus, that sleep is interrupted, and often prevented. The child complains of pain in the belly, looks pale, picks its nose, and has a va-

riable appetite. The stools contain a preternatural quantity of mucus, or slimy matter, in which frequently is discovered the worms like small white threads. A cathartic of calomel and rhubarb, assisted by an injection of aloes and water, or lime water and olive oil, will generally be sufficient to remove or destroy them. Suppositories of molasses candy, well rolled in calomel, answer the best purpose for the removal of ascarides.

The symptoms denoting the presence of the *teres*, or long round worm, which exists in every part of the alimentary canal, are, a capricious appetite, fœtid breath, pains in the stomach, and sometimes vomiting, grinding of the teeth during sleep, picking of the nose, paleness round the mouth, and red spots in the cheeks; swelling of the upper lip, a livid circle round the eyes, hardness and fulness of the belly, a short dry cough, disturbed sleep, emaciation of the body, an irregular fever, drowsiness, and unequal pulse. In some instances convulsions, epilepsy, and partial palsy of the lower extremities, occur. If convulsions, attended with a small pulse, and hiccough, are present, it may be almost certain that worms abound in the alimentary canal. Small substances in the excrements resembling melon or cucumber seeds, are symptoms of the tape worm.

It is not often that infants at the breast are afflicted with worms, though some instances have occurred in those not more than three or four months old. There is an erroneous idea prevalent among some persons, that to give an emetic in worm complaints may occasion suffocation and death; but it should be considered that when worms are actually in the stomach, if they can be thrown off by vomiting, immediate relief will be obtained, and an emetic of ipecacuanha will not invite them there, for they loathe all bitter and nauseous substances. It is very doubtful whether these vermin have ever united in the stomach in such a formidable body as to obstruct the passage and occasion suffocation.

A great variety of anthelmintic medicines have been advised for the destruction and removal of these vexatious vermin. The common wormseed is in considerable repute as a vermifuge. The seeds being reduced to a fine powder, are mixed with syrup and given to the quantity of a table-spoonful to a child two or three years old, early in the morning. The patient is to be kept without nourishment for some hours, and after supper another dose must be administered. It is often necessary to continue this course

for several days, and then a cathartic should be directed. But the essential oil of wormseed is found to be still more efficacious. It should be administered in doses of from four to eight or ten drops on sugar, to a child two or three years of age, twice in a day, until the worms are evacuated. The spigelia marilandica, Carolina pink, in the form of powder, about ten grains for a dose, or the infusion with the addition of senna or jalap, to assist its purgative effect, is in general use, and it seldom fails to answer the desired purpose, often affording relief or effecting a cure, even when no worms are discharged. But when exhibited in large doses without proper precaution, it has been known to produce very singular and distressing effects on the nervous system. The great bastard black hellebore, or bearsfoot, is in great repute as a vermifuge for the long round worm. A decoction of about half a drachm of the green leaves, or about fifteen grains when dried, is a proper dose for a child between four and seven years old; it is to be repeated for two or three days. The green leaves may be made into a syrup with sugar, and a tea-spoonful given at bed-time, and one or two the next morning. This medicine also requires to be used with much caution, as it has been known to produce deleterious effects. We have a more safe and no less efficacious vermifuge in the *Melia azedarach*, or pride of India, the produce of the southern states. The bark of the root of this tree is doubtless one of the most valuable anthelmintics that has ever been discovered, and with many physicians where its efficacy is best known, it has superseded the use of all others. I have frequently employed it with the most satisfactory success. A large handful, or about two ounces of the bark, is to be boiled in a pint of water till it acquire the colour of strong coffee, or till half the water is consumed; from half an ounce to an ounce may be given every two or three hours until it operates by vomiting, or as a cathartic. It has on some occasions produced unpleasant effects, similar to those induced by spigelia, but they soon disappear without any perceptible injury to the system.

The *dolichos pruriens*, or cowhage, is another vermifuge of superior efficacy; the stiff hairs which cover the pods, if applied to the skin, occasion intolerable itching, and they act mechanically as an anthelmintic. The pods being dipped in syrup until it is rendered by the hairs as thick as honey, the syrup containing the hairs is to be separated from the pod, and given from a tea-spoon-

ful to a table-spoonful in the morning, fasting. The worms are said to appear with the second or third dose, and by means of a purge, in some cases the stools have consisted entirely of worms. The powder of tin, in doses of from a scruple to a drachm, has been given as a vermifuge with considerable advantage, but it is more particularly useful for the removal of the tape worm in adult persons.

Dr. J. Fisher, a very respectable physician of Beverly, is of opinion that the effect of tin as an anthelmintic, depends very much on its being minutely divided; and he employs the amalgam of tin, which he says never fails to kill the long round worm. His method of preparing the amalgam is inserted in the Appendix of this volume. Three or four drachms of this medicine is to be divided into twelve doses, two of which are to be given in a day. This quantity will generally be sufficient for a child; but sometimes six or even twelve additional doses will be required. If we wish to keep the bowels more open, a proper quantity of calomel may be added. Worms killed by tin or its amalgam, are never discharged entire, but are either partially or wholly digested. This preparation has in other hands proved an excellent remedy, and answered the most sanguine expectations. But of all the articles of the Materia Medica, mercury has been considered as incomparably the most powerful vermifuge. Long experience has evinced that no remedy is so safe, so mild, or so certain, as calomel, given in a dose adapted to the age and constitution of the child; keeping him warm and avoiding cold and sour drinks for two or three days. A child between the ages of two and four years, in general, may take from one to three grains at a dose in syrup, and to be repeated according to circumstances: rhubarb, or jalap, may be added to quicken its operation. Ball's purging vermifuge powder is a valuable preparation; it is composed of equal parts of rhubarb, scammony, and calomel, with as much double refined sugar as is equal to the weight of all the other ingredients. These must be reduced to fine powder, and well mixed together; and the dose, for a child, from ten to twenty grains. Attention must be paid to diet, and after the expulsion of worms by a proper course of vermifuge medicines, the Peruvian bark, stomachic bitters, and chalybeate preparations will be serviceable to strengthen the stomach and bowels.

It has been recommended by Professor Barton, in strong terms, to apply the leaves of tobacco, after having been pounded with

vinegar, to the region of the stomach, or other part of the abdomen, as a vermifuge. In consequence of this application, worms are often discharged after powerful anthelmintics have been exhibited internally in vain.

The *tænia* or tape worm resides in the intestines of adult persons, and are so tenacious of their habitations that it has been found extremely difficult to dislodge them. The symptoms by which its presence may be ascertained, are those of worms in general, but a more certain, and indeed the only criterion, is the expulsion of one or more pieces of the worm itself. The great difficulty of expelling the tape worm has long been experienced, as in the attempt, portions consisting of a number of joints are frequently broken off and discharged, but, being endowed with a power of regeneration, it soon acquires its former size, and excites the same troublesome motions. One of the celebrated specific remedies for the tape worm, is the male fern, combined with various drastic purgatives; but it is needless to particularize respecting this or other nostrums, since we are now in possession of remedies more deserving the title of specific. Dr. Fisher is in the practice of exhibiting Fowler's arsenical solution, for the destruction of the tape worm, and asserts that it is always successful. He directs the patient to take as large a dose as the stomach will bear, two or three times every day, till the worms are destroyed. For an adult, ten or twelve drops will be a sufficient dose.

The oil of turpentine, taken in a little milk or gruel, has proved a very successful remedy for the tape worm, in doses of from one to three ounces. I have employed this remedy in two instances with complete success. The patients were females, and I directed half an ounce of the oil to be taken every three hours. The third dose operated as a severe purgative, by which the tape worm was expelled, and all the symptoms soon disappeared. The medicine produced no vomiting, nor any affection of the urinary passages, but created a great heat of the whole body, which continued for a few hours. Report has been made of six table-spoonfuls of the oil of turpentine having been taken at one time, and with the desired effect.

DISEASES OF WOMEN AND CHILDREN.

DISEASES OF PREGNANCY AND THE PUERPERAL STATE.

Pregnancy is frequently the source of numerous disagreeable sensations, and sometimes the cause of diseases which require the utmost care and the most judicious management. It is, however, universally acknowledged that those women who bear children, enjoy usually more certain health, and are much less liable to dangerous diseases than those who do not.

The first sign of pregnancy is usually a suppression of the menses, to which soon succeed nausea and vomiting in the morning, heart-burn, indigestion, peculiar longings, head-ach, giddiness, tooth-ach, and sometimes a slight cough; the breasts become enlarged, and shooting pains extend through them. The areola round the nipple extends and becomes of a brown or darkish colour. In some women, the catamenia flow with their usual regularity during the whole season of pregnancy. A feverish disposition, with debility, emaciation, irritability, and peevishness of temper often occur, whilst in other instances no inconvenience whatever is experienced.

About the twentieth week after conception, in some instances later, what is called quickening usually takes place, when the mother becomes sensible of a slight motion of the child, and she is then liable to sudden faintings and slight hysteric affections.

The sickness and vomiting in the morning may generally be prevented by taking some light food before rising from bed, and keeping the bowels constantly soluble by cooling, easy laxatives. Should this complaint, however, continue during the course of pregnancy, small bleedings will be highly necessary, and the saline mixture in the act of effervescence, with essence of peppermint, will in most cases afford essential relief. The elixir vitriol will also be found useful. The application of laudanum to the pit of the stomach, will often abate excessive vomiting, but if it still continues to be obstinate, a gentle emetic of ipecacuanha will become necessary, and experience has proved that it may be given and repeated during the pregnant state with perfect safety. After

this operation, an infusion of colomba, or other stomachic bitters, will be of considerable benefit.

The feverish disposition which almost always attends pregnancy must be relieved by bleeding and low diet. The head-ach, when attended with plethora and drowsiness, in robust women, will in general require a small evacuation of blood from the arm, and gentle laxatives. In weak irritable habits the application of leeches to the temples will be more proper, and camphorated spirits, æther, and laudanum should be freely applied. In cases of severe tooth-ach we have often extracted the one most affected with perfect safety, although some authors assert that abortion has usually been the immediate consequence of the operation. The application of a few drops of the essential oil of cloves, savin, cajeput, or juniper, will often prove an effectual remedy.

The heart-burn, which so often incommodes pregnant women, generally proceeds from an acidity in the stomach, and is best obviated by a free use of calcined magnesia, chalk, and the alkaline salts, or the aqua ammonia.

When pregnant women manifest some peculiar longings for particular articles of food, they should always be gratified if possible, as miscarriage is sometimes the consequence of anxiety attending disappointment on such occasions. Costiveness is commonly a troublesome complaint during pregnancy in consequence of pressure of the uterus on the rectum; this should be prevented by a daily use of some laxative, as the extract of butternut, manna, cream tartar, &c. Pills of aloes and soap, or Anderson's pills, are commonly employed, and they are not found so injurious as some have represented.

The various complaints which attend the more advanced stage of pregnancy, as suppression of urine, diarrhœa, retroverted uterus, œdematous swellings, convulsions, cramps, varicose veins, jaundice, incontinency of urine, &c. are to be treated in the manner recommended by the different authors on midwifery, with which every practitioner ought to be acquainted.

It not unfrequently happens that women at an advanced stage of pregnancy are attacked with spurious pains, somewhat resembling those of labour, which occasion an unnecessary alarm. In such instances, if plethora prevail, bleeding will be requisite; laxatives and clysters to remove costiveness; and a quiet easy position, with opiates to allay irritation, will commonly prove effectual; but

if spasm or hysteric symptoms attend, nothing is to be preferred to the root of skunk cabbage in doses of half a drachm, repeated frequently till the desired effect be produced. In every period of pregnancy, when there are evident marks of fulness, especially in the latter months, it should be removed by blood-letting, and all violent exercise or exertion of body or mind must be guarded against with the utmost care.

Of Abortions.

Every pregnant woman is more or less liable to disappointment in her fond expectations by the accident of abortion. It may happen at any period of gestation, but is most frequent in the second or third month. If it happens within the first months it usually receives the name of a false conception; if before the seventh month it is termed an abortion or miscarriage, and at this period the infant although feeble and weakly, may often be reared by proper care and attention. Abortions are seldom dangerous in the first five months, but a repetition of them by weakening the system, frequently lays the foundation for chronic diseases of the most obstinate aud dangerous nature. Some women have a certain tendency to miscarry, which renders the most trivial accident productive of that misfortune, while others suffer the most astonishing agitations of the mind and body with perfect impunity. This peculiar tendency to abortion sometimes occasions such repetition of the same accident as to render the woman incapable of being the mother of a living child, and is the cause of irreparable injury to her general health. It is therefore a subject of extreme regret that we sometimes meet with instances of unfortunate females who, to conceal their criminal indulgences, resort to various artificial means to procure abortion in order to prevent a discovery of their situation; such attempts are frequently attended with fatal consequences.*

* Applications are sometimes made to practitioners for this unwarrantable purpose, but every conscientious man will repel the solicitations with disdain, however desirous he may be to save the reputation and the feelings of individuals, as the intention can seldom be accomplished by ecbolic medicine without exposing the life of the mother to the greatest danger, and himself to just execration. In France the crime was formerly capital, but since the revolution the punishment is twenty years imprisonment. In every civilized country, it is decreed, that if a woman die in consequence of taking medicine to cause abortion, the person who administered it shall be held guilty of murder.

The usual causes of abortion are violent exercise or great exertions of strength, as dancing, jumping, and severe coughing, sudden surprises and frights, violent fits of passion, anxiety and grief, uncommon longings, overfulness of blood, drastic purges, profuse evacuations, excessive venery, general debility of the system, external injuries, as blows and bruises. It is of importance to remark that instances have occurred, where in cases of twins, one child has been expelled and the other retained to the full time.

Those women in whom abortion has become in a manner habitual, should observe the greatest precautions in order to prevent a repetition of the accident; if of a full plethoric habit, she ought to be bled just before the usual time of her miscarrying; her diet should be mild and simple, consisting principally of milk and vegetables; costiveness must be particularly avoided, as also all agitations of the mind, severe exercise, violent efforts, and such objects as may be likely to make a disagreeable impression on her mind. She ought to exchange her feather bed for a mattress, sleep less than usual, and keep her body cool, and take daily exercise without much fatigue.

Habitual abortion, however, is more frequent in women of a weak lax habit, where bleeding would be altogether inadmissible. Here a nutritive and generous diet, moderate exercise in a carriage, the cold shower bath, and a course of chalybeates, with other tonics will be indispensably necessary; the patient at the same time carefully avoiding all the exciting causes. The muriated tincture of iron, has in cases of this description, been employed with satisfactory success in doses of fifteen drops two or three times in a day.

The symptoms attending the progress of a threatened abortion are, a pain in the loins, or about the bottom of the abdomen, with a dull heavy pain along the inside of the thighs, a slight shivering, sickness, and palpitation of the heart. The breasts subside and become flaccid or soft, the belly sinks, and their ensues a discharge of blood or watery humours from the uterus, sometimes coming away in clots, and at others flowing profusely for a short time, and at intervals again returning violently. When the pregnancy is advanced beyond the third month, these symptoms are generally increased, with sickness, faintness, and slight febrile heat, troublesome bearing down of the uterus, and a most rapid discharge of blood, owing to the increased size of the uterine vessels.

In some instances abortion ensues in a few hours, but in a majority of cases in about three days from the commencement of the symptoms, though the process has on some occasions been prolonged to several weeks. On the first appearance of flooding or other signs threatening abortion, the woman ought to be laid on a mattress with her head low and hips a little raised, where she should be kept as quiet and comfortable as possible, perfectly cool, and debarring her of all food of a heating nature, and directing cold liquors acidulated with elixir vitriol or lemon juice. If the strength of the patient is not much reduced, and where the pulse is in any measure full and frequent, it may be proper to take a little blood from her arm, after which some gentle laxative or aperient clyster should be administered. Should a copious hæmorrhage occur, it will be advisable to prescribe ten or fifteen drops of laudanum, to be repeated so as to keep up a constant effect, and this may be combined with astringents. In extreme cases, anodyne clysters may be injected from time to time, and linen cloths, wet with cold vinegar and water, be kept constantly applied to the back and lower part of the abdomen. Astringent injections, composed of a saturated solution of alum, white vitriol, or acetite of lead, or of a decoction of oak bark are often employed in violent floodings with good effect, and the various internal astringents as mentioned under the head of menorrhagia, will on many occasions of threatened abortion prove the most efficacious remedies. In obstinate or protracted cases where great debility is induced, instead of bleeding we ought to trust to the efficacy of the digitalis in suitable doses, which has in some instances succeeded. But in fact uterine hæmorrhage, when it occurs in the three last months of pregnancy, is one of the most formidable and dangerous accidents to which women are subject. It sometimes happens that all the means prescribed fail of producing the desired effect, and the woman becomes exposed to imminent danger, and the most profound judgment and experience may be baffled in every attempt to preserve the life of the patient.

It would be inconsistent with the plan of this work to detail all the particular circumstances which may attend the process of abortion in every instance; reference must therefore be had to proper books on midwifery, and to the assistance of an experienced practitioner.

Of Child-Birth, and the after treatment.

It is by no means intended here to enter into the particular circumstances pertaining to the various cases of parturition, much less to detail the peculiar duties of the obstetric art; suffice it to offer some general observations relative to the management of women in the parturient state, and the proper treatment after childbirth.

It is generally estimated that nine calendar months, that is, forty weeks, or two hundred and eighty days, constitute the term of gestation, but the period is liable to some variation or inaccuracy in the calculations of particular individuals. It is from many observations rendered highly probable that in some instances the term of pregnancy is considerably shortened, and in others somewhat protracted.

In by far the greatest number of instances the labour is accomplished by the powers of nature, unattended with difficulty or danger, unless rendered so by the officious interference of rash and unskilful practitioners. It is, however, indispensably necessary to have the assistance of some person well versed in the art, in order to guard against accidents, which might otherwise happen, and which might be attended with very serious consequences.

The condition of every woman during parturition must be regarded as extremely distressing; she is often dispirited and impressed with the most fearful apprehensions, which if indulged, may be productive of the most injurious effects. It is therefore incumbent on the practitioner to exercise the duties of a humane and cheerful friend, endeavouring all in his power to soothe the distressing passions and acute sensibilities which unavoidably occur at the beginning of labour. When any alarming circumstances are present, these should be concealed from the patient, or otherwise explained in such satisfactory manner as to gain her confidence and inspire her with resolution and courage, and animate her hopes of speedy relief. Every proceeding which may tend to increase her anxiety, but more especially every appearance of indelicacy, must be scrupulously guarded against.

During actual labour the woman ought to take nothing of a heating nature; confining herself to beef tea, panado, jellies, and broth, with barley water, and tea or coffee. If she is disturbed with spurious pains of the spasmodic kind, they may be effectual-

ly removed by a few doses of the powdered root of skunk cabbage, or the infusion, or by proper doses of laudanum. If the labour prove tedious and difficult, it will be proper to bleed for the purpose of preventing inflammation, and emollient clysters should be frequently injected. On some occasions sitting over the steam of warm water, or fomentations to the lower part of the abdomen, will be both useful and proper.

When the patient appears to be exhausted by fatigue, so that nature seems to sink, some cordial medicine will be requisite, as the spirits of hartshorn, with the compound spirits of lavender, or a glass of generous wine. There is a pernicious custom still prevalent among females in the middle and lower stations in life, which ought to be abandoned. It is that of taking during labour a variety of heating drinks, and rendered more stimulating by the addition of spices, wine, or spirits. Nothing can be more opposed to the true indications in these circumstances, nor more detrimental in its effects. All internal stimulants have a direct tendency to increase the action of the heart and arterial system, which will not readily subside when the woman is delivered, and if there be any previous disposition to fever existing in her body, nothing is so likely to bring it into activity, and fevers of the most dangerous kind may be the consequence. The most proper drinks for women in labour, are barley water, toast and water, lemonade, apple tea, with other weak and diluting liquids.

Immediately after delivery a broad bandage should be applied round the abdomen moderately tight; the woman must be kept as quiet and easy as possible, carefully avoiding the heat of bed clothes, confined air, and every stimulating substance, whether internally or externally applied. It will in general be necessary to direct a dose of tincture of opium to allay irritation and procure sleep, and to those who have been habituated to high living, a little light animal food and a glass of wine may be allowed, recollecting, however, that too much indulgence is more to be feared than too rigid abstinence; all extremes ought to be avoided.

Instances sometimes occur of dangerous floodings immediately after delivery, in which case the patient ought to be laid with her head low, kept cool, and to be treated in the same manner as for an excessive flow of the menses; should the hæmorrhage be violent, linen cloths wrung out of a mixture of vinegar and water,

should be applied cold to the abdomen, the loins, and thighs, and repeated doses of opium must be given. Although the patient should be particularly careful to avoid too much heat, it is no less necessary to guard with the greatest attention against the danger of taking cold.

As soon after delivery as the mother's strength will permit, and she and the child have taken some sleep, her breasts should be washed with warm milk and water, in order to remove the bitter viscid substance which surrounds the nipple, and the infant should be applied and invited to make its natural attempts to draw nourishment from the breast. If this operation be attended with difficulty, on account of the nipples not being sufficiently prominent to afford a proper hold for the child, the breasts should be drawn by an adult person, or an older child, or the glasses made for the purpose may be employed; but cautiously avoiding every degree of violence, as it may be productive of considerable injury.

It must be remarked as of some importance, that in every instance a mild laxative should be given within forty-eight hours after delivery. A table-spoonful or more of castor oil, or a dose of salts and manna, will generally be sufficient, and should always be preferred to irritating aloetic pills.

After Pains.

For some time after delivery, the contractions of the uterus are apt to continue, and occasion pains, which in some cases are so violent as to resemble the throes of labour. This complaint, termed *after pains*, is seldom to be regarded as dangerous, though productive of considerable distress; it is usually temporary in its duration. After pains occur more rarely in the first than in future labours, owing probably to the womb not contracting so readily after several deliveries as at first. These pains may be distinguished from other affections by their alternating with intervals of ease, by the breathing not being impeded, and by the pains being followed by the expulsion of coagulated blood. This complaint is to be removed by the application of warm fomentations to the abdomen, and repeated doses of tincture of opium, accommodated to the severity of the case. If spasmodic affection be evident, the skunk cabbage root will afford the most effectual relief.

The Lochial Discharge.

There is in all women a certain degree of hæmorrhage from the uterus after delivery, but the appearance and duration of the discharge is very various in different women. For the first four or five days the discharge consists of florid blood, after which it assumes a mucous appearance, and at last the evacuation ceases entirely. When a suppression of the lochia ensues before the accustomed period, great pain is felt in the lower part of the abdomen, which is somewhat tumid and tender to the touch, and febrile symptoms appear. In these cases a return of the evacuation must be attempted by the application of warm fomentations to the abdomen, by the use of warm diluent drinks, as gruel with a little white wine or cream of tartar dissolved in water. The saline mixture, with the addition of antimonial wine, should be freely taken, together with laxatives and opiates, to allay the pain and irritation.

Milk Fever.

The secretion of the milk about the second or third day is commonly attended with a slight degree of fever, and the breasts become turgid and painful. These symptoms, however, are of short duration if properly managed, seldom continuing longer than twenty-four or thirty-six hours, when they terminate by a profuse sour smelling sweat, a gentle looseness, or a copious discharge of milk from the breasts. The milk fever may often be prevented by applying the child to the breast soon after delivery, and by giving a purgative medicine about the second or third day. During the hot stage, mild diaphoretics, as the saline mixture with antimonial wine, will be proper, and when the breasts are much distended, they should be softened by rubbing in some warm olive oil with a little camphor twice in a day, and covering them with flannel.

We are decided in our opinion that every woman ought if possible to suckle her own child; but if from ill health or any sufficient cause, the mother should determine not to suckle, a proper method must be adopted with the view of diminishing a too copious flow of milk. This, however, is not to be effected by the use of repellent applications to dry up or put a stop to the secretion, as it may be attended with dangerous consequences. Her breasts must be drawn three or four times a day; she should use a very

spare diet, regulate her bowels by laxative medicines, and abstain as much as possible from all liquids. A curious fact relative to this subject is asserted by a late sensible writer, the author of the Maternal Physician,* which is this; when the mother is unable to suckle on account of sore nipples, if the milk can be drawn out with sucking glasses, and the child fed with it, the milk may be preserved in the breasts for a length of time; for, while the babe is nourished by it, it will continue to flow let it be obtained from the breast how it may; whereas, if it is drawn out and thrown away, the quantity will gradually diminish, until it dries away entirely. This fact, however inexplicable, is analogous to that which experience has long since taught every observing dairy woman, that by milking their kine on the ground, the quantity may be daily diminished until it cease altogether.

It may be deserving of notice here that Dr. Erastus Sergeant, of the county of Berkshire, has found by experience that the small winter grape-vine taken by way of infusion, or mixed with milk in the manner of milk punch, has a strong tendency of increasing the secretion of milk in nursing women.

Diseases of the Breasts.

Women who suckle are particularly liable to inflammation of the breasts, which often is a source of infinite pain and distress. It may be excited by the direct application of cold, retention of the milk in consequence of sore nipples, or by bruises and other external injuries. A sudden fright has been known to produce it.

When any hardness or painful swelling is perceived in the breasts of lying-in women, immediate attempts ought to be made to arrest the progress of inflammation and the consequent suppuration. A slight hardness may often be removed by rubbing the volatile liniment or sweet oil diligently into the part with a warm hand for a quarter of an hour twice in a day, and then covering it with a cabbage leaf, which promotes perspiration and contributes to the dispersion of inflammation; or spirit of mindereri applied cold, or the ointment of stramonium, may be applied to the tumour as an excellent remedy for the same purpose. The breasts should

* The Maternal Physician is a production replete with interesting matter, worthy the attention of every nursing family.

be frequently but tenderly drawn through the whole course of the complaint, either by the child or a grown person who has been accustomed to the operation ; saline purgatives must be occasionally administered, as also anodynes whenever pain and irritation require their use. If the local inflammation continue to increase and the febrile symptoms become violent, blood must be taken from the arm or by leeches to the part, and the patient restricted to a low diet and cooling drinks ; and recourse must be had to the saline mixture with tartarized antimony. Should these means fail to disperse the inflammation, a large blister must be applied to the part, taking care to place it smoothly that it may adhere closely to the skin, a hole being cut in the centre for the nipple to protrude, and if necessary the tincture of cantharides may be used to increase the vesicating effect. After the blistering, the sore should be dressed with the spermaceti ointment. The above is reputed as the grand remedy, which will in general speedily disperse the most alarming swellings of the breast, and prevent the formation of painful abscesses. Another method recommended by Dr. John Clark, who has been much conversant with the treatment of lying-in women, with the view of dispersing inflamed tumours of the breasts, is first to apply several leeches to the part, and afterwards cloths wet with a strong cold solution of the acetite of lead, and to be renewed as often as they become dry. The peculiar advantages to be derived from the diligent employment of the saturnine solution, so greatly preferred by Dr. Clark, to the common practice of employing emollient fomentations and poultices, are by their coldness and astringent quality ; the blood is repelled from the part, and the inflammation diminished ; the woman will suffer less pain, and the constitution will be less affected : the breast will not be weakened, and if an abscess should form, the extent of the suppuration will be very much lessened, and the duration of the disease considerably shortened. But when a resolution of the inflammation cannot be effected, and an abscess is about forming, any further attempts to discuss the tumour will be improper, and the suppuration must be promoted by the usual means of poultices and fomentations. The poultices to be preferred are composed either of the meal of linseed or the mucilage of slippery elm bark, rendered of a proper consistence by the addition of Indian meal, or the common one of bread crumbs and milk. Should any thing more stimulating be required, an onion cut fine may be added, or

a little basilicon ointment spread over the poultice. When the abscess has advanced to a state fit to be opened, if it should not burst, a slight opening with the point of a lancet in the most distended and dependent part must be made. The poultices should still be continued, and the wound kept open for the discharge of the matter. It is, however, to be observed, that as a long continued use of poultices has a direct tendency to relax and debilitate the parts, as soon as they can be dispensed with, compresses wet with a solution of crude sal ammoniac in vinegar, with the addition of a third part brandy, should be substituted, the sore at the same time being dressed with basilicon or the spermaceti ointment.

Abscesses of the breasts sometimes heal and others form, or sinuses are insinuated into different parts, attended with a hardness of the whole glandular substance of the breast; in some instances these cannot be healed till freely opened from one sinus to the other. The remaining induration of the breast may be reduced by the employment of leeches to the part, and by the application of a poultice composed of hard soap dissolved in vinegar with a little crude sal ammoniac, and made of a proper consistence by the addition of rye meal. The camphorated mercurial ointment and the discutient plaster, to be found in the Appendix, are remedies well adapted to the purpose intended, experience having confirmed their beneficial effects. When the patient is much exhausted and debilitated by a long continuance of pain and discharge, her strength must be supported by the use of the cinchona and a nutritive diet.

Dr. Hosack states in h s Medical Essays, vol. II. that in a case of inflammation of the mamma occurring after parturition, and which terminated in scirrhus, a great variety of means general and local, were employed to disperse the tumour, without effect. After many weeks obstinate obstruction similar to what occasionally takes place in the testes and inguinal glands, he directed a poultice of the elm bark, infusing the shavings of the bark in warm water until reduced to a thick mucilage: this tumour and obstinate enlargement of the breast, which had resisted the various mercurial and other discutient applications usually directed in cases of this nature, and which the Doctor expected would have called for the knife, to his great surprise was rapidly dispersed by this application in a few days, and without any permanent injury to the breast; for after a subsequent child-bearing she gave suck from that breast equally well as from the other.

Excoriations and soreness of the Nipples.

This is another tedious complaint with which nursing women are frequently afflicted. The action of the child's mouth when sucking, and the irritation which the stagnant milk occasions, are very apt to injure the delicate structure of the nipples unless kept very dry. On some occasions the pain, when the child sucks, is so exceedingly severe that the mother is actually unable to continue to suckle, and the sores can scarcely be healed until another nurse be substituted. In some instances an aphthous state of the child's mouth excites this affection, in others the child receives it from the nipple, and it is difficult to cure the one without the other at the same time.

The great object to be attended to in this complaint is to obviate as much as possible every cause which can tend to irritate these tender parts. It will be very useful to wear a sort of cup made of wax or lead over the nipple to prevent its being wet with milk or fretted with the clothes. When excoriations have made their appearance, a solution of alum, sulphate of zinc, acetite of lead, or sulphate of copper, are the astringent applications most commonly recommended; but there is not, in my opinion, a more truly valuable balsamic application to sore nipples than a solution of borax in warm water, with the addition of a little honey; or it may be reduced to powder and mixed with sugar, and applied for the same purpose as well as to the aphthous mouths of children, with the happiest effects if freely used. There are various forms of ointments and liniments which may be esteemed as among the most efficacious remedies in this complaint, of which description is the elegant white ointment called cold cream, see Appendix, and also a popular one prepared from the solanum dulcamara, called also woody night-shade or bitter sweet. Take a small handful of the bark of the root of bitter sweet, and add to it as much fresh butter or cream as will cover it in a proper vessel, and let them be simmered together over a very moderate heat during six or eight hours, and then strain it through a cloth, when it will form a beautiful yellowish coloured ointment, well adapted to the purpose.

A valuable liniment may be prepared as follows: take of litharge and of vinegar, two drachms each, olive oil, six drachms; rub them well together in a mortar till the mixture be of a pale flesh colour, and of the consistence of cream. Either of the above

preparations will be found of great utility in the cure of this troublesome complaint.

It must, however, be recollected, that whatever may be the remedy employed, the child should never be permitted to suck until the nipple be thoroughly washed with warm water or covered with oil, lest it receive injury from the substances which have been applied.

With the view of diminishing the sensibility of the nipples, and thereby preventing excoriation and soreness, it has been recommended to wash them frequently with some stimulating liquor for some time previous to delivery; brandy and water or alum water may be advantageously employed. But the pickle of salted meat, after being boiled, has been recommended as an infallible specific for the purpose. Recent experimental trials have confirmed most satisfactorily that a simple infusion of the root of sophora tinctoria, applied as a wash, is one of the most efficacious remedies for sore nipples with which we are acquainted. See Appendix.

PUERPERAL, OR CHILD-BED FEVER.

The puerperal fever is a disease peculiar to women after delivery, and such is the danger and fatality of its nature, that in European hospitals, it is computed that three fourths of the number attacked, fall sacrifices to its power; and it is supposed to occasion the death of nearly one half of those who die in child-bed. In private practice in our own country, the disease more rarely occurs, and is much less malignant and fatal in its consequences.

There is a great diversity of opinion entertained by medical writers, respecting the nature and original cause of puerperal fever: according to some it proceeds from an inflammation of the uterus, peritoneum, or omentum; others have supposed it to be the consequence of an undue secretion of the milk, or to a stoppage of the lochial discharge; while by others, it is ascribed to improper management during parturition, as violence used in dilating the os internum, a too hasty and rash separation of the placenta, and the binding the abdomen too tight: but it is well known that the disease may, and often does follow a labour under the most favourable circumstances. To these, others have been added, a stoppage of perspiration, the free use of spirits and other stimulants, and the neglect of procuring stools at a proper season after delivery;

sudden frights and colds. The real cause, however, remains obscure, and not satisfactorily ascertained. Whatever may be the true cause assigned, such is the dangerous nature of the disease, as to require the most profound judgment, experience, and skill, for the successful treatment of it. This fever has evidently a strong tendency to a typhoid type, although at its commencement, it is frequently attended with inflammatory symptoms. In many instances, it has undoubtedly proceeded from contagion, and in European hospitals, it has frequently spread so rapidly among female patients, as to baffle all attempts to arrest its progress, until the wards were thoroughly cleansed, and new painted.

Puerperal fever commences generally on the second or third day, sometimes later, after delivery, with a chilliness succeeded by pains in the head, ringing in the ears, flushing in the face, great anxiety, and restlessness. The whole abdomen soon becomes affected, is extremely painful to the touch, and more or less tumefied. The patient likewise complains of severe pain in the back, hips, and sometimes in the legs, with laborious respiration. The milk suddenly disappears on the approach of the disease, and the lochia are altered, both in quantity and appearance; there is great prostration of strength with depression of spirits, a disinclination to suckle, indifference about her child, and watchfulness. The skin, in some patients, is in the ordinary state, both with respect to heat and moisture; but in others, it is very hot and dry at first, and afterwards covered with a clammy sweat. The pulse is weak, small and frequent, often from one hundred and ten to one hundred and sixty in a minute; the tongue is pale, or white at the beginning, but soon becomes brown; the teeth are covered with a black or brown crust, and in some, a low delirium ensues. The urine is turbid, small in quantity, and voided with pain, and a tenesmus often attends. To these symptoms are added, a tensive pain over the forehead, and parts about the eyebrows, with a peculiar wildness of the eyes, and a deep red or livid colour fixed in the cheeks. Sometimes vomiting and purging attend from the beginning; but in general, at first, the body is costive; when the disease proves fatal, however, a looseness usually comes on, and the stools at last are involuntary, and afford a temporary relief.

Such in general is the course of the puerperal fever; the symptoms of which, however, may vary according to the constitution of the patient, the degree of the disease, and its earlier or later inva-

sion. When the woman is naturally weak, or her strength greatly reduced by immoderate evacuations after delivery; when the disease is violent, and immediately follows that period, its progress and termination are proportionably rapid and fatal. In such circumstances, many have been known to expire in forty-eight hours from the first attack of the disease; the decisive period, however, is usually from the seventh to the eleventh day. In the event of a favourable termination, the change is not marked by any critical symptoms, but the cure is gradually effected either by vomiting, or long continued discharge by stool, of that corrupted matter, the existence of which in the stomach, is usually apparent at the first attack of the disease. When the lochial discharge returns to its former state, and the swelling and tenderness of the abdomen abate, and there is a natural moisture on the skin, we have ground for hope that a happy termination will soon take place.

There is a close resemblance between puerperal fever, and inflammation of the peritoneum. In the former disease, the abdominal pain is not the most prominent symptom; and there is more despondency, debility, and head-ach, less heat of the skin, less thirst and flushing of the face. In peritoneal inflammation, the pain in the belly usually increases rapidly after it begins, and the swelling increases at the same time, and pressure excites great pain. The symptoms of anxiety, and oppression at the breast, are common to both the puerperal, and miliary fever, but in the former, the chilliness is more violent, of longer duration, and not interrupted as in the latter. The pulse, too, is fuller and stronger; the skin is more hot; the tongue is of a brownish appearance; and the urine is also higher coloured.

The symptoms of puerperal fever, at the first onset, are in some degree similar to, and may be mistaken for those of the milk fever, but an attentive observer will soon be enabled to decide correctly.

The first essential point to be determined in the cure of puerperal fever, respects the propriety of bleeding. While among the most experienced physicians, some inculcate the necessity of a free use of the lancet, others with equal confidence affirm, that in almost every instance, the loss of blood proves injurious, and sometimes if in great quantity, produces fatal effects. It will be conceded that this operation ought not to be resorted to indiscriminately, and without real necessity. The hard full pulse, the ex-

cessive heat of the body, the thirst, and other signs of morbid excitement, will evince the propriety of the evacuation. In the early stage, therefore, of puerperal fever, bleeding, it may be asserted, is clearly admissible and proper in women of full habit of body, and in whom the inflammatory symptoms run high. The quantity to be drawn, must be determined by the constitution of the patient, and violence of the symptoms. If benefit be derived from the first bleeding, it will be perfectly justifiable to repeat the operation, provided the urgency of the case appear to render it necessary; but of this the experienced practitioner must decide, in every instance, from existing circumstances. Where nausea and a vomiting of bilious matter attend an attack of this fever, a gentle emetic of ipecacuanha should be given, with a view of cleansing the stomach; and circumstances may occur to render a repetition of it necessary during the course of the fever.

In regard to the propriety of administering purgative medicines in this disease, it is a point in which practitioners are not altogether agreed. It is undoubtedly a circumstance of much delicacy and importance, and requires to be decided, and conducted with the utmost caution. Experience, it has been said, authorizes the assertion, that more women appear to have recovered from the puerperal fever, by means of a looseness, than have been destroyed by that cause. If it be considered, that purging is usually almost the only sensible evacuation in the more advanced stage of the disease, and is that, which accompanies it to its latest period, there is the strongest reason to think, that it is critical rather than symptomatical, and, therefore, ought to be moderately supported, instead of being restrained. The indications of nature, certainly require, that we remove costiveness, and evacuate putrid feculent matter; and with this view, laxative medicines may be employed at the beginning of this disease with safety and advantage. A dose of castor oil, or twenty grains of rhubarb, with ten of salt of tartar, are well adapted for this purpose, and they may be occasionally repeated, or a few grains of calomel may be combined with rhubarb, or jalap, if preferred. When in the more advanced stage of the disease, the strength of the patient is much reduced, aperient clysters may be substituted, as answering the double purpose, of evacuating putrid irritating matter from the intestines, and by acting as a warm fomentation to the womb and adjacent parts, and these should be assiduously employed.

With the view of expelling the corrupted matter from the stomach and intestines, Dr. Denman, strongly recommends the following preparation. Take of tartarized antimony, two grains, crabs eyes, or chalk prepared, two scruples, mix them well together. He gives of this powder from two to six grains, and repeats it as often as circumstances require. If the first dose does not produce any sensible effect, he repeats it in an increased quantity at the end of two hours, and proceeds in that manner, not expecting any benefit, but from some evident discharge produced by it. If the first dose produce any considerable effect by vomiting, procuring stools, or plentiful sweating, a repetition of the medicine in a less quantity, will seldom fail to answer expectations; but great judgment is required in adapting the quantity first given to the strength of the patient, and other circumstances.

Dr. Burns has much confidence in the efficacy of the Peruvian bark, with the sulphuric acid, administered early in the disease, with great freedom, as counteracting debility, and a putrid tendency.

The carbonate of potash, or salt of tartar, in doses of ten or twelve grains, frequently repeated, or the saline mixture, will be found exceedingly useful in promoting the discharge by urine and perspiration. As a diaphoretic, however, there is perhaps none to be preferred in the present instance, to ipecacuanha, combined with opium, in the form of Dover's powder; about six or eight grains of which should be given every four hours. Opium is to be esteemed as a remedy of particular utility, in the child-bed fever, by alleviating pain, procuring sleep, and abating the irritation of the bowels, and of the whole system. In those cases where the patient is in danger of being exhausted, and her strength greatly prostrated, by the continuance of spontaneous diarrhœa, a liberal use of opium will be indispensably necessary; the extent to which it ought to be carried, must be determined by the observation of the attending physician, or by the pain and irritation being alleviated, and the diarrhœa restrained. Injections of starch, or the chalk julep, with laudanum, will also tend to the same good effect. In most cases of puerperal fever, attended with much pain, and tension of the abdomen, the extensive application of blisters over the part, and sometimes on the thighs also, have been essentially beneficial, and they should be repeated in succession. Warm fomentations of a decoction of mallows, camomile flowers, or mullein, ought to

be employed as a remedy of considerable importance. When the violence of the febrile action has subsided, especially if a putrid tendency become apparent, it will be requisite to have recourse to the cinchona, and columbo root, with the mineral acids, as directed in the putrid fever. But I have much reason to believe that the eupatorium perfoliatum will often be found more efficacious than the cinchona or any other tonic.

During the whole course of this fever, a plentiful use of diluting drinks should be enjoined, with light nourishing food, such as arrow root, sago, oat gruel, &c. to which wine may be occasionally added. Great attention should be paid to cleanliness in every particular, the chamber must be constantly, but prudently ventilated, avoiding with equal care, the excess of heat, or undue exposure to cold. That temperature of body which approaches the nearest to the standard of health, will be the most proper for women who labour under puerperal diseases.

Dr. Sutton, of Greenwich, England, and some others, have employed cold water, as a lotion, to the abdomen with great success. Five out of six cases treated with this remedy recovered, but we are not informed what other remedies were used at the same time.

In the London Medical Repository for May, 1815, five cases of puerperal fever are reported by Mr. W. Gaitskill, surgeon. The cases were all very severe, and under the treatment adopted all recovered. The plan was simple, bold, and decisive. It consisted in bleeding, which was repeated six times, in one case, in four days, till the frequency of the pulse was diminished, and a sensible alteration for the better was made in the general state of the patient; and in purging, until the alvine discharges exhibited a more favorable appearance. The author of this paper believes in the highly contagious nature of puerperal fever, and in this opinion, he is supported by Dr. Haighton, who saw one of his patients in consultation.

It has been more recently promulgated that Drs. Gordon and Armstrong, and Mr. Hey, English practitioners of experience and abilities, have adopted the depleting practice in the epidemic puerperal fever. There is observable a striking coincidence in the opinions and practice of the above recited gentlemen. Mr. Hey, however, appears to carry the depleting plan to the greatest extent. "When I was called," says Mr. H., "at an early period, I seldom took away less than twenty-four ounces of blood at first, unless

some peculiar delicacy of constitution, or an excess of the previous evacuations, forbade it, and if this delay was protracted to eight or ten hours, or the symptoms were unusually severe, a larger quantity, to the extent of thirty, forty, and in one instance more than fifty ounces, in proportion to the urgency of the symptoms, and the loss of time. If the pain and soreness of the abdomen are not removed, or very materially alleviated, in six hours the bleeding ought to be repeated; nor should a considerable degree of faintness or even a deliquium, make us suppose that further bleeding is either unsafe or unnecessary. In short, I know not from any experience of my own, that scarcely any other limit should be put to the quantity of blood, than the removal, or considerable diminution of the pain, provided all that is requisite be drawn within twelve hours of the first evacuation. If the disease is clearly ascertained, no other consideration is of much importance. The state of the pulse affords little information, either as to the propriety of bleeding, or the quantity of blood to be taken away; and if we are deterred, either by the apparent weakness of the patient, by the feebleness and frequency of the pulse, or by any other symptom, from bleeding copiously, we shall generally fail to cure the disease." Immediately after the bleeding, Mr. H. usually gives half a drachm of jalap, and three or four grains of calomel, and at short intervals small doses of cathartic salts, till copious evacuations should be procured. The purging when produced was maintained for two or three days, or longer if necessary; and when the symptoms had entirely subsided, it was suffered gradually to decrease. The evidence in favor of the great success which has attended the foregoing method of practice appears to be unquestionable.

Dr. Good, an English author, of the highest standing, coincides with Dr. Armstrong, and his coadjutors, in opinion that in puerperal fever, peritoneal inflammation, is always present, and that in some instances it spreads over all the cavity of the abdomen, even the intestines, omentum, and all the neighbouring viscera being involved in the common mischief. "This inflammation must be subdued, and that speedily, or the patient will perish; and hence abstraction of blood and calomel purgatives are the arms on which we have chiefly, if not solely, to depend; and both should be employed decidedly, and to as great an extent as we dare. Eighteen or twenty ounces of blood should be drawn from the arm, as soon as

possible after the commencement of the disease, and repeated within twelve hours, if necessary, and the strength will allow: but if venesection have not taken place before the third day, the debility will have gained so high an ascendancy, and the general symptoms put on so putrescent a complexion, that little benefit is to be gained from it. The bowels should at the same time be moved by six or eight grains of calomel given in the form of a pill; and the same preparation, to the amount of three or four grains, should be continued every six hours, till the tension and soreness of the abdomen have abated.* It happens not unfrequently, however, that the patient's frame is so weak and delicate that we should risk more by drawing blood generally than even by leaving the case to nature; as it does also that the stomach and bowels are from the first in a very high degree of irritation, with violent purging and vomiting, and will not bear any additional stimulant. Instead of the lancet we must have recourse to leeches, by which twelve ounces of blood may be drawn, and by the exhibition of two grains of calomel, with one grain of opium, repeated every five or six hours, the irritation of the stomach has yielded to the commencement of a new action." Dr. Good prescribes a large piece of folded flannel, wrung out forcibly in as hot water as can be borne, to be applied over the whole of the pubes and abdomen, and covered by a broad flannel or linen swathe passing round the body, which is to remain for many hours, or till it becomes dry. This application, says Dr. G., answers all the purposes of a bread and water poultice, imparting warmth and moisture. In the mean time perspiration should be encouraged by the use of Dover's powder, with the addition of a solution of acetate of ammonia; and if the debility be considerable, camphor in doses from ten to thirty grains, every five or six hours, will prove very advantageous.

In the New-England Journal of Medicine, &c. vol. XIV. there is an extract from the London Med. and Phys. Journal, purporting that Dr. Kinner, from his own experience and that of others, recommends in strong terms from one to two drachms of the rectified oil of turpentine, with an equal quantity of syrup, and an ounce of distilled water, in the form of a draught, to be exhibited after

* Dr. Armstrong, after copious bleeding, administers from twenty to thirty grains of calomel, and follows it by sulphate of magnesia and castor oil, so as to produce constant evacuations, until relief be obtained.

bleeding and purging every three or four hours, until abatement of pain and other symptoms take place. It will be rarely requisite to repeat the draught more than two or three times. The above draught in general has seemed to relax the intestines, or at least to sustain the cathartic operation produced by preceding remedies. It has been but rarely rejected by the stomach. In every instance of puerperal fever, Dr. K. thinks fomentiug the abdomen with tepid oil of turpentine advisable, having frequently known females express in the most forcible terms the extraordinary and almost instantaneous diminution of pain which they experienced from its application.

The following was communicated by Dr. E. Sergeant, of Berkshire county. In a case of puerperal fever, the physician administered a cathartic, and made his daily prescriptions in form. But a female friend and nurse adventured to dispense with all the medicines directed, and administered internally, and applied to the abdomen, a decoction of the root of sophora tinctoria, in the efficacy of which she had imbibed the fullest confidence. The effect was a copious evacuation of dark coloured fœtid matter from the bowels and uterus, and a speedy cure was effected. The physician, unapprised of the artifice, exulted on the performance of an important cure.

MANAGEMENT OF INFANTS.

It will not be inconsistent with the professed object of this publication, to premise some brief directions for the management of infants, previous to treating of the diseases to which they are peculiarly liable. With regard to *clothing*, ease and simplicity are to be consulted as much as possible, at the same time adapting their dress to the season of the year, and the inclemency of our climate. Of whatever materials the clothing is composed, it ought to be applied in such a manner as to allow a perfect freedom of the limbs, and not too closely compress or confine any part of the body. By undue pressure of the external parts of the body, the circulation of the blood is not only impeded, but the action of the lungs and the natural motion of the intestines are interrupted, by which the growth, strength, and activity of the infant are greatly retarded. Deformities of the limbs, distorted and crooked spines, are not un-

frequently the consequence of tight bracing, and a cumbrous load of clothing. One simple rule is sufficient for parents to observe: "That a child have no more clothes than are necessary to keep it warm, and that they be quite easy for its body." *Cleanliness* among children is to be observed as a point of the utmost importance. The practice of washing the whole body in tepid water regularly every day, is indispensably necessary to cleanliness, and conducive to health. But bathing in cold water is by no means calculated for strengthening or improving the health of infants. The sudden effect of cold is too violent a stimulus for the frame of a tender infant, in whose mind it perhaps excites the greatest emotions of horror and terror. The practice of plunging tender infants in cold water ought to be prohibited as bordering on cruelty. At a more advanced age, the cold bath may be advantageously employed. With respect to *food* in early infancy, we need only advert to the dictates of nature, pointing to the breast of the mother, as affording an aliment the best adapted to the delicate digestive organs of children in the early stage of infancy. Milk from the breast of the mother ought unquestionably to constitute the chief, if not the whole of the diet of infants, for the first months or even year of life. We are persuaded that there are few females who are capable of bearing children but are qualified to suckle them, and even with an advantage to their own health. Those mothers, however, who may be affected with any hereditary disease, should be excepted from the general rule. It is of importance for the parent who commits her infant to the management of a hired wet nurse, to be assured that these women have reared their own children with satisfaction. No fond mother would be willing to consign the offspring of her bosom to a nurse whose health is impaired or her constitution broken down by intemperance or contracted diseases;—whose mind is continually agitated by passion or depressed by melancholy or grief;—whose body is enervated by sloth or bloated by indulgence, by which she is incapable of affording an adequate supply of milk of an healthy quality. The moral and amiable virtues are as essential qualifications in a nurse, as the quantity and quality of her milk. Much of the future indisposition of the child will be traced to the contaminated source of improper nurses, which unfortunately is seldom discovered until too late to be corrected. A wet nurse should not be more than thirty-five years of age, enjoying good health, of a

mild and placid disposition, attached to children, untainted by hereditary disease, and exempted from nervous affections; temperate in eating and drinking, capable of enduring fatigue with patience, cleanly in her person, and attentive to this particular in the object of her charge. The good qualities of milk are, its being thin, of a bluish colour, rather sweet to the taste, and in great quantity. The nurse's milk, when over six months old, is seldom proper for the stomach of a *new-born* infant, being thick and not easily digested. The diet of a wet nurse should consist of milk, broth, plain puddings, fresh meats of easy digestion, and a large proportion of vegetables. One precaution should be observed by a wet nurse, never to suckle a child while she is under the influence of passion, as colic and sometimes convulsions in the child have been the consequence. When it becomes necessary to rear an infant without the breast, or by *dry-nursing*, as it is called, instead of feeding with the spoon the child should suck its food from a glass vessel, or a tea-pot with a bit of parchment or bladder tied over the mouth, and perforated with holes. By this simple process the child is compelled to make considerable exertion to obtain the quantity necessary to satisfy the demands of hunger, and the food is duly mixed with the bland secretions of the mouth, which is necessary for the promotion of digestion. It should be remarked that infants ought never to be fed lying on their backs; were the nurse to make the experiment on herself, she would soon be convinced that the position is an awkward and provoking one, and would learn to feed the child while sitting upright. The most suitable food for children during the first three or four months, is cow's milk diluted with water in proportion to its richness, and sweetened with a small quantity of sugar. When older, a little sago, sallop, arrow root, &c. may be allowed, but the child should never have more forced upon it at a time than it is disposed to take readily. Perhaps there is no error in nursing more injurious than gorging and overloading the stomach of children. Whether reared at the breast or otherwise, the nurse ought to be apprized that overfeeding is often attended by serious consequences. Before the appearance of teeth, children should not be allowed animal food; all changes in diet should be gradual, and nothing given that is found to disagree with the stomach and bowels. Regular meals will be found very conducive to the health of children, and will prevent that idle and pernicious practice frequently observed in families, of eating as an amusement, not from the calls of hunger.

Of Weaning.

Much of the future health of children depends on the proper regulation of this great revolution in the mode of living. The indisposition of children sometimes arises from the bad quality of the milk; for when women protract the period of nursing too long, a natural change takes place in their system which renders the milk no longer possessed of the salubrious qualities proper for nourishment. The period of weaning must be influenced by a variety of circumstances besides the health of the child. We have seen no opinion relative to the subject of weaning so satisfactory as that delivered by Dr. James Jackson, in his valuable remarks on the morbid effects of dentition.* According to this acurate observer, children are benefited by living principally on the breast for twelve months, their vigour being in most cases evidently impaired if weaned before nine months. The safest period of the year for weaning is from the middle of October to the middle of March; those children who are weaned in the summer months or at any period from April to October, are extremely liable to suffer by the cholera infantum, or the diarrhœa of teething children, in the ensuing autumn. At whatever time it is undertaken, it ought not to be permitted to interfere with the cutting of teeth, nor be attempted in the near prospect of any debilitating disease or immediately after its cure. Whenever the undertaking is resolved on, let it be accomplished at once and with resolution, with a total prohibition of the breast. No preparatory means are necessary, and to indulge the child with the breast in the night, and to withhold it during the day, is prolonging the evil which with so much toil and anxiety it is the intention to avoid. The most suitable food to be substituted for the mother's milk has been described in the foregoing pages. Should a costive habit attend this change of living, a little rhubarb and magnesia will be sufficient for its removal, and if a diarrhœa ensue, the preparation of boiled flour, as directed in the Appendix, will be found an excellent remedy, as well as nourishing food. The health of children greatly depends upon exercise and salubrious air. By exercise the actions of the heart, the motions of the lungs, and all the vital functions are greatly assisted, and the whole frame is rendered strong, firm, and vigorous. While in the arms of the nurse, children will be much benefited by gentle friction, as rubbing

* See New England Journal of Med. and Surgery vol. I.

them with the hand along the whole course of the back bone, and soon as they begin to learn the use of their own limbs, allow them to stand on their feet, or creep on the floor, as inclination may prompt them, at an after period they should have free indulgence in their amusements and gambols in the open air.

DISEASES OF CHILDREN.

The attentive investigation of the disorders peculiar to early infancy by the physicians of the last century, and the accuracy with which they have described them, has rendered this part of the duty of the medical attendant less embarrassing, and has established a more rational and successful practice. The zeal with which these luminaries of the science of medicine have prosecuted their inquiries, and the light with which they have elicited by their collection of facts, and their repeated and critical observation, have only been surpassed by the laudableness of their intentions, and the benefits which their labours have conferred on mankind.

The most general causes of their diseases are improper food, confined and unwholesome air, the want of due exercise and cleanliness, difficult dentition, and unhealthiness of the parents. The greater irritability of their nervous system, their general laxity, and the delicacy of their muscular fibres, may be enumerated as so many predisposing causes.

Of the Retention of the Meconium.

The dark coloured viscid matter, contained in the bowels of all infants, and is usually discharged by stool during the two or three first days after birth, is known by the name of *meconium.* The aperient quality of the first secreted milk of the mother, is better adapted to promote this discharge, in the greatest number of cases, than the common preposterous mixtures, with which their bowels are too frequently drenched. But when the milk is found to be insufficient to produce this effect, it will be necessary to have recourse to other means. In general, very little medicine will suffice for the purpose; and the best we can employ is about a teaspoonful of castor oil. In a situation where this cannot be conveniently procured, an excellent substitute will be found in a solution of manna in warm water; or a little fresh whey and honey.

Should not the meconium be evacuated by the application of these remedies, and no stool has been procured during twelve or

fourteen hours after the birth of the infant, it will be advisable to administer an injection of thin gruel, with a little olive oil and common salt. This clyster may be repeated every few hours until the desired effect is produced.

Of the Red, White, and Yellow Gum, and other Cutaneous Eruptions.

Infants during the first month, and till after the period of teething, are liable to numerous cutaneous eruptions, which assume a variety of appearances, and proceed from many different causes; our limits will admit only of some general observations relative to their forms and treatment. The first in order, is that *benign eruption*, which in almost every infant appears soon after birth, and is well known by the name of *red gum*. It usually appears in small vivid red spots, resembling a fine rash, upon the face and neck, occasionally on the hands and legs, but more generally on the whole body; it is not, however, uniform in its appearance, for in some infants it assumes the form of small pustules, containing a limpid, and at other times a purulent or yellow liquor. In very young infants, a circumscribed redness is frequently the only evident part of the eruption, but at a more advanced age, it will be of a pearl colour and opaque, and as small as pins' heads, or even their points. When it assumes this glistening appearance, it seldom discharges any fluid, but at the termination of the complaint, the cuticle is thrown off like a slight scurf. This harmless affection is supposed to proceed from a predominant acid in the first passages, and nothing more is necessary for its removal, than to keep the child moderately warm, and to give a little prepared chalk, coral, or magnesia. Another variety of this complaint, to be noticed in this place, has obtained the name of *white gum*. It appears chiefly on the face, neck, and breast, in minute whitish specks, hard, and a little elevated, and generally surrounded by a very slight and narrow border of redness. The pustules contain no fluid; and this eruption requires no treatment different from the one recommended for the cure of the preceding complaint.

The yellowness of the skin, which appears about the third day after birth, and termed by nurses the yellow gum, is too trifling to be mentioned as a disease, and will soon disappear without the aid of medicine.

That scabby eruption which often affects the head and face of infants, appearing in different distinct patches, or spreading in one continued crust, is known to nurses by the name of *milk blotches*, and called in medical language, *Crusta Lactea*. These scabs are always superficial ; consequently never leave any scar, unless they are improperly treated. Although this complaint exhibits a very unpleasant appearance it is attended with no fever, or obvious derangement of the system, but often continues for weeks, or months, while the child remains in health. Dr. Underwood thinks he never saw an infant much loaded with it, but it was always healthy, and cut its teeth remarkably well. From the anxiety of parents to have this disagreeable complaint removed, a variety of medicines have been applied, but most frequently without success. It might perhaps be useful to change the nurse, or for the nurse to change her manner of living, and abstain from much animal food, and from all fermented liquors. It should always be remembered that these eruptions are innocent and salutary, and that every active medicine must be avoided. It is only necessary to keep the child's bowels constantly loose, by mild laxatives and magnesia. To allay the excessive itching of the parts affected, a weak solution of sugar of lead, or the mucilage of the slippery elm bark, will be proper, and the scabs ought to be kept clean by washing with milk and water, and castile soap suds. This complaint may be removed by the application of a tar cap, or washing with tar water, but a dose or two of physic should be given to the child soon as the scab disappears, to prevent ill consequences.

Dr. Underwood describes a species of early rash, which often takes place about the time of teething, and not unfrequently at the decline of fevers, and severe bowel complaints. This rash very much resembles the itch ; it is confined to no particular part of the body, though it appears more frequently about the face and neck. This eruption, the Doctor says, is certainly salutary, and even critical, and requires nothing but to avoid taking cold.

Another kind of rash, according to Dr. Underwood, appears chiefly in teething children, very much resembles the measles, and has been sometimes mistaken for it. In other instances, after children have cut all their teeth, an eruption appears in the form of round lumps as large as middle sized peas, very hard, with a red base, and white at the top, as if they contained a little lymph. Both these eruptions are perfectly harmless, if not repelled by cold

or improper treatment. The absorbent powders, to correct acidity, and magnesia to promote a soluble state of the bowels, are all the medicines that seem requisite. These, and other anomalous kinds of rash, with which infants are often affected, are seldom attended with fever, and are considered as evidence of the connection existing between the stomach and bowels, and the surface of the body; they are therefore to be regarded as an exertion of nature to throw off something hurtful, and much care and attention is necessary, to guard against cold, or any application tending to repel the humour from the surface. It is a well known fact, that when the milk does not agree with the stomach, a cutaneous eruption is produced; and on the other hand, when these eruptions suddenly disappear, they are generally followed by sickness, and sometimes the most serious consequences ensue. If, upon the disappearance of any such eruption, the child should be disordered, it will be necessary immediately to attempt its re-appearance by the employment of the warm bath, and a free use of saffron, or snake-root tea, and at the same time to open the bowels by a gentle laxative.

Instances sometimes occur, where diseases of the skin become extremely obstinate and troublesome, indicating remedies more effectual than those above mentioned. The æthiops mineral, has long been in repute as an alterative medicine in cutaneous diseases, and may be given in doses of from four to eight or ten grains. The mucilage of slippery elm bark, both internally and externally applied, will in many cases be found useful. If an ointment should be preferred, the stramonium ointment, with a small proportion of calomel combined, will be found one of the most convenient, and efficacious applications in cases of tetters and other cutaneous affections. The ointment of nitrate of quicksilver, yellow ointment, is usually employed with beneficial effects in various affections of the skin. There are many scabby eruptions and sores on the skin of children, which may be effectually cured by washing with a decoction of the root of sophora tinctoria (Indigo weed.)

Of Excoriations and Ulcerations.

From inattention to cleanliness, infants are frequently chafed in the wrinkles of the neck, behind the ears, and in the groins. In mild cases of excoriations, it is seldom necessary to do more

than wash the surface frequently with milk and water, or a weak suds of castile soap, and to apply a little lint spread with spermaceti ointment, or Turner's cerate. If there be any objection to oleaginous applications, the excoriated parts may be bathed with rose water, containing a weak solution of sugar of lead, and afterwards sprinkled with futty or calamine, and covered with a piece of scorched linen.

In excoriations of the skin under the lap of the ear, a fascinating American writer* recommends a little opodeldoc dissolved in warm water as the most efficacious application which has ever been employed. But if the complaint has been of long continuance, it will be dangerous to dry up the discharge suddenly by repellent applications, or astringent lotions, unless purgatives are frequently administered. Instances have occurred in which a disease of the brain has been excited by speedily healing the surface, after having been long abraded, when the state of the bowels has been neglected.

These excoriations are sometimes attended with a swelling of the lymphatic glands about the jaw and neck, and degenerate into large deep sores, which frequently terminate in gangrene. In such cases the child generally sinks, notwithstanding the sloughs begin to separate. An infusion of the root of sophora tinctoria, (see Appendix) will be found far superior to any other application. Should the parts become livid, or threaten to mortify, fomentations of bark, or camphorated spirits of wine, should be applied, and the strength supported by the administration of the bark internally.

When, from neglect, mismanagement, or other cause, ulcerations ensue, and are large and painful, fomentations of white poppy-heads boiled in milk, will assuage the pain, and expedite their cure. If under this treatment they manifest no disposition to heal, apply, morning and evening, a liniment composed of calomel, four grains, and the ointment of elder or stramonium, one drachm, spread on a bit of soft linen, or fine lint. This is no less a clean and elegant preparation, but of superior efficacy to any other remedy. Perhaps in this stage of the complaint it may be necessary to have recourse to alteratives, of which, small doses of calomel joined with magnesia, will be the best internal prescription.

---

* The Maternal Physician; by an American Matron.

Under every circumstance of excoriation of the skin, or ulceration, particular attention to the regularity of the bowels will be indispensably necessary.

Of Acidities, Gripes, and Flatulency.

Authors who have written professedly on the diseases of children, have given a separate and distinct treatise on colic, costiveness, sour eructations, green stools, gripes, wind in the stomach and bowels, inward fits, and acidities. No advantage can result from such attempts to simplify; and common readers are perplexed by discussions, in which symptoms usurp the place, and have all the importance attached to them of a specific disease.

The causes of all these affections may be traced to occasional or habitual costiveness, bad milk, weak digestion, unwholesome or too much food, moist cold air, the sudden disappearance of some eruption of the skin, and that natural tendency in the stomach of all infants to generate acidity.

When the aliment, instead of being concocted by digestion and converted into chyle, becomes acid, most of the symptoms enumerated above, together with constant restlessness, frequent crying, drawing up of the legs forcibly to the body, hiccoughs, vomiting, diarrhœa, depression of strength, and, in very irritable habits, convulsion will probably be the consequence. The good or bad qualities of the milk undoubtedly depend very much upon the diet of the mother or nurse, if she indulge in much fruit or flatulent food, the infant will certainly suffer colic pains, and wind in its bowels in consequence. It is in this case, no less necessary for the mother to correct her milk, than to administer proper remedies for the relief of the child. She ought immediately to take infusions of some carminative medicine, such as pennyroyal, caraway, the root of sweet flag or ginger; but above all, the essence, or the distilled water of peppermint, which will produce the best effects. The same medicines will afford relief to the child, if given warm, but perhaps infusions of anise, and caraway, should have the preference; and a tea-spoonful of magnesia given in a little of those drinks, will seldom fail to remove the complaints. In all cases of acidities in the stomach, or bowels of children, magnesia, will be found of excellent service, and if used in small quantities every day, it would tend greatly to prevent watery gripes and many oth-

er distressing complaints incident to children. But much of the absorbant quality of magnesia, is often lost, by being too thoroughly wet, or standing too long after being mixed; it is only necessato break all the lumps, and give it in as dry state as it can conveniently be swallowed.

In those cases where there prevails a superabundant acidity, accompanied with sour belchings, green stools, with curdled milk, it will be necessary to evacuate the contents of the stomach and bowels, by a gentle emetic of ipecacuanha, and a dose of castor oil; after the operation of which, the following laxative absorbent mixture will prove exceeding beneficial. Take of magnesia and prepared chalk, of each two drachms, rhubarb in fine powder, half a drachm, oil of anise seed, twenty drops, sugar, one drachm, simple cinnamon, or peppermint water, two ounces, common water, four ounces. First mix the powders in a marble mortar, and then add the oil and sugar, and lastly add gradually the water. One or two tea-spoonfuls of this mixture should be given every three or four hours, shaking the phial each time it is used. On some occasions it may be useful to add two or three grains of salt of wormwood, or tartar, or a few drops of spirit of sal ammoniac, to each dose. This mixture will be found in most complaints of children proceeding from acidity, a very eligible absorbent, laxative and carminative preparation.

Acidities in the first passages, are frequently attended with a severe purging, for which absorbent powders have been recommended as highly useful; but the mixture just mentioned, is also a medicine well adapted to the indications of cure, and will prevent the accumulation of acescency of the stomach, if properly employed. Infants are frequently attacked suddenly with colic pains, when acidities and flatulency prevail in a high degree, without any previous warning. The accompanying symptoms are, violent crying and screaming, kicking, and drawing up of the legs, and hardness and tension of the belly. In such cases, it will be necessary to prescribe some mild laxative, or a clyster, and if the complaints are severe, recourse may be had to the warm bath, fomentations, and frictions, with warm brandy, or camphorated oil, on the belly. Although strong prejudices exist against the use of opiates, or anodyne medicines for infants, they are of indispensable necessity in many instances. When these tender little creatures, are suffering the severest pain from colic, gripes, or even from colds and coughs,

it is really cruel to let them remain in that condition for hours, when immediate relief can be produced by a few drops of elixir paragoric, which is perfectly innocent and harmless. From ten to twenty drops of elixir paragoric, or four or five of laudanum, will on most occasions afford relief from pain, distress, and peevishness, so common with children at the breast; and if not too frequently resorted to, no sort of ill consequences need be apprehended from the practice. Acidities, gripes, and flatulency sometimes originate in costiveness, this is to be obviated by occasional doses of castor oil, or magnesia, in an infusion of the seeds of anise.

It is a well founded remark, that the passions of the mind greatly affect the state of the nurse's milk, occasioning gripes, and colic pains. The infant therefore, should never be admitted to the breast, while the mind of the nurse is disturbed or agitated.

Of the Thrush, or Aphthæ.

However harmless the thrush, or sore mouth, as it is vulgarly called, may be considered, it is undoubtedly a disease of debility, arising from acidities in the first passages, or some other acrimonious humour lodged in the stomach and bowels, or from indigestion, whether occasioned by bad milk, or other unwholesome food.

This disorder generally appears first in the angles of the lips, and then on the tongue and cheeks, in the form of little white specks. These increasing in number and size, run together more or less according to the degree of malignity, composing a thin white crust, which at length, lines the whole inside of the mouth, and extends into the stomach and through the whole intestinal canal; producing also a redness about the anus. If the specks are of a pale colour, superficial, and easily fall off, they are not considered dangerous; but when the crust falls off, and is succeeded by another of a darker colour, or livid hue, it is reckoned the worst kind. In forming our prognostic of the termination of the disease, it is necessary to attend to the sensibility of the stomach and bowels, and the appearance of the egestion. Frequent vomiting, repeated thin stools, with griping, and a tender state of the abdomen, are very unfavorable; drowsiness, oppressed breathing, moaning, spasms, and great languor, with frequent pulse are symptoms indicating danger.

A remarkable propensity to sleep, fretfulness when awake, and an unusual heat in the mouth, are among the premonitory symptoms of fatal termination of the disease. In its mild form, or when it is an original disorder, it is never attended with any fever; but when it has arisen in consequence of severe bowel complaints, or other infantile diseases, it is not unusual, in such cases, for the thrush to be accompanied with fever of the low kind.

In mild and recent cases of this disease, when the aphthæ is confined to the mouth, and appears in a few scattered spots resembling little pieces of curd sticking to the surface of the tongue, or within the lips, it may in general be easily removed by keeping the bowels duly open with a little magnesia given daily.

Many regard aphthæ as a salutary complaint, and in consequence of this erroneous belief, the disease has been neglected until it has extended down to the stomach and intestines, producing cough, and great difficulty of breathing, with other symptoms of a disordered state of the stomach and bowels. Under these circumstances the most active applications must be employed or we shall be unable to arrest its fatal termination.

In the treatment of the thrush, it will be proper on its first appearance to give a gentle emetic of the wine of ipecacuanha, in order to evacuate the stomach of acidities or other acrimonious humours. After the operation of the emetic, we may recommend manna, magnesia, or a course of the testaceous powders, if the child is of a costive habit. If the infant is robust, and the disease is violent, and has extended rapidly, suitable doses of calomel may be taken with advantage. But on the contrary, if its bowels are rather loose, and the constitution feeble and delicate, we may substitute the compound powder of contrayerva, or the mixture of chalk, endeavoring at the same time to support the strength by cordials, and injections of a decoction of the bark, with the addition of a few drops of the tincture of opium.

A variety of local detergent applications in the form of gargles and lotions have been recommended, the most common of which is a saturated solution of borax in water, and mixed with honey, or a syrup of the wild turnips. Besides this preparation, a strong decoction of Peruvian bark acidulated with the elixir vitriol, a solution of white vitriol, and diluted muriatic acid have severally been employed with an expectation of their disposing the sloughs to fall off, and of constricting and healing the parts beneath.

Among the vegetable productions of New-England, the arum maculatum, better known by the name of wake-robin, dragon root, or wild turnip, is a remedy of approved efficacy. The common method of employing it, is to mix about one drachm of the finely pulverized root into a paste with common honey, a small quantity of which being put upon the infant's tongue will be licked to all parts of the mouth. This by being frequently repeated during the day, will keep the infant's mouth moist, clean, and comfortable, and promote a separation of the aphthæ. A few grains of calomel mixed with honey, and applied to the mouth and tongue, will also be found very serviceable in this complaint. See sophora tinctoria, Appendix.

Canker of the Mouth.

This complaint is distinct from aphthæ, and is termed by practical authors *ulcuscula oris.* It makes its appearance about the time of teething, and more especially in severe cases of diarrhœa, and cholera infantum. It commences with little white circular vesicles with a red line surrounding their basis, and occupies the tongues, gums, and inside of the cheeks, which become ulcerated, and discharge a quantity of thin fœtid matter. There is frequently an unusual discharge of saliva, and a very fœtid breath. Such is the soreness and tenderness of the mouth, in many cases, that the infant cannot be induced to take the breast, or the mildest liquids, even when the calls of hunger are urgent. It has been known to extend to the œsophagus, and throughout the whole alimentary canal, and even the anus becomes affected in the same manner, and we frequently hear nurses and mothers express their apprehension of danger from the "*inward canker.*" The cure is to be performed by gentle laxatives, and by proper local applications, such as those mentioned above for aphthæ. The mouth should be frequently cleansed by a piece of sponge, or a little mop, well charged with the detergent gargles; and a few grains of calomel in dry powder, or mixed with honey, if applied to the tongue will be carried to the ulcerated surfaces, and its good effects will soon be manifest. This should be repeated several times in the day, and if swallowed, no injury will ensue. The fullest confidence may be placed in the efficacy of the sophora tinctoria. Let a decoction of the root be used as a gargle,

and taken internally, and it will be found to answer every purpose.

Of Tumours of the Scalp.

It sometimes happens, that after a laborious birth, the scalp of the child is considerably tumefied; this is seldom attended with serious consequences; and by the application of cloths wet with brandy, or camphorated spirits, the effused fluid is soon absorbed, and the swelling disappears. On some occasions however, such tumours do not readily subside, but rather increase, and continue for several weeks, and the mother becomes alarmed. Under such circumstances, it may be necessary to make an opening through the integuments, for the discharge of the contained fluid; there can be no danger from this simple operation, and by the application of spirits, or vinegar, in which some crude sal ammoniac has been dissolved, with proper compression, the incision soon closes, and a cure is effected.

Of Cutting the Tongue.

We are frequently importuned by mothers and nurses, to liberate the tongue, when on examination, it is found to be inexpedient; there not being one in many hundreds of infants, whose tongue is so confined by the frænum, as to incapacitate it from sucking, and afterwards from articulating distinctly. Whenever the tongue is so confined, that the infant cannot move it over the gum, or take proper hold of one's finger, or a good nipple, the membranous string, which in this case binds it down, ought to be so divided as to enable it to suck with freedom. The operation may be performed with the common scissors, while lifting up the tongue with the fingers of the left hand. Some attention, however, is requisite, to avoid cutting any of the blood vessels beneath the tongue, from which infants have sometimes bled to death. Another danger to which careless operators are liable, is that of cutting the string to too great an extent, in consequence of which, the point of the tongue being entirely unconfined, may fall back into the throat and occasion suffocation. Whenever this accident does take place, the infant appears greatly agitated, the face turns black, and unless it be soon relieved by bringing the tongue in-

to the proper place, convulsions and death will be the consequence.

Of Vomiting.

It is not uncommon for healthy thriving infants at the breast, to puke up the milk, especially after a free indulgence, and when the child is shaken or dandled. When vomiting is evidently occasioned by overfeeding, and the milk comes up unchanged, it is to be regarded as a kindly exertion of nature to free herself from any superfluous quantity received into the stomach. This is not to be accounted a disease, and requires no other remedy but abstinence after the stomach is disburthened of its load, and care not to overfeed it for the future. If the vomiting proceeds from acidity in the stomach, an emetic of ipecacuanha will be proper, after which, repeated doses of magnesia will probably effect a cure. If from an increased degree of sensibility, or too great an irritability of the nerves of the stomach; the saline mixture, with a few drops of laudanum, will be beneficial, and in order to brace and strengthen the stomach and abate its sensibility, a cold infusion of Peruvian bark, with a little rhubarb and orange peel will be essentially necessary. In cases of severe and obstinate vomiting, the operation of internal remedies may be assisted by the application of aromatic and spirituous fomentations, or an anodyne plaster to the pit of the stomach. In all cases of vomiting, mild cathartics, and laxative clysters, should be administered, as occasion may require.

Infantile Remittent Fever.

This fever, according to the experience of Professor Hosack, is of very frequent occurrence, and is often fatal among children from one to six years of age; but is oftentimes met with between that period and the twelfth year. It comes on with fretfulness, dry lips, shortness of breath, pain in the head, hands hot and dry, pulse often 120 in a minute. The child is unwilling to stir or speak, the sleep is disturbed by startings, and the food is rejected, and a costiveness or looseness with slimy stools attend. Some children are delirious or stupid, many for a time speechless. There are several accessions of fever and in the intervals of the parox-

ysms the patient appears almost free from complaint, though more peevish than usual. At length after several days a shivering fit and vomiting ensue, and are followed by a violent paroxysm of fever. The pulse now rises to 140 in a minute; the cheeks are flushed, the drowsiness much increased, and the child keeps picking almost incessantly at the skin of the lips and nose, and of the angles of the eyes. This species of fever is mild at its commencement, slow in its progress, and very uncertain in its event.

"As in the bilious remittent of adults, it may be remarked of the infantile remittent that it is very generally traceable to a derangement of the digestive organs as its primary seat and source. This is evinced by the loss of appetite, the foul tongue, the offensive breath, and the confined state of the belly, in the forming stage of this disease, and which are generally considered as the evidence of worms, and treated accordingly. These symptoms in a few days are succeeded by those of fever, which is of very uncertain duration and violence, and not unfrequently displays itself either in irritation of the chest producing oppressed respiration and cough resembling pneumonia, or upon the brain, followed by the evidences of phrenitic inflammation, and ultimately terminating in hydrocephalus internus. This last termination, such is the natural tendency and force of the circulation upon the brain at that early period of life, may very generally be anticipated, if active means be not early employed to empty the stomach and intestines; and to unlock the surface of the body by warm bathing, the free use of antimony and other diaphoretics; or by blisters, to create a new and relatively safe seat of irritation, upon which the febrile symptoms may expend themselves. Indeed so constantly is hydrocephalus the sequel of other febrile diseases, that it may, with few exceptions, be considered as exclusively symptomatic. I have even known pneumonia to be its forerunner. Teething is frequently productive of fever, ending in phrenitis and hydrocephalus; and I believe, the arterial excitement occasioned by the use of mercury, so frequently and indiscriminately given in the diseases of children, has been a prolific parent of this fatal malady; and which has oftentimes been remarked to have greatly increased in frequency and mortality, since the very general prescription of that metal. In as far, therefore, as increased arterial excitement of long continuance, whatever may be its type or its source, has a peculiar tendency to oppress the brain at this period of life, the

same consequence is to be apprehended from the form of fever under consideration; and, on this account, not only calls for the most active means of obtaining a solution of such fever, but, in an especial manner, suggests the employment of such remedies as are calculated to divert the current from the brain to other parts of the system. When, therefore, in the progress of fever, the brain begins to manifest inordinate irritation; either by pain, or by stupor, blisters to the extremities and active cathartics, viz. an infusion of senna, manna and cream of tartar, frequently administered, until plentiful evacuations are obtained, are among the most effectual means of arresting the progress of the fatal train of symptoms now to be apprehended. I notice particularly the infusion of senna, having administered it in many cases of approaching hydrocephalus with the most decided advantage."

(Professor Hosack.)

For Convulsions see page 563.

Of Dentition, or Teething.

Dentition is often a painful and critical period with infants, in which the first appearance of indisposition should be watched with care and attention. For various and complicated are the complaints during this important crisis, which, though harmless in their commencement, become, through neglect, formidable in the progress, and frequently fatal in their termination.

Many children appear to suffer greatly from the tension, irritation, or inflammation of the gums, before there is any apearance of teeth. They suddenly become fretful and uneasy; disgusted rather than amused with their toys; sink upon the bosom, or incline to lay in the arms; and sleep with their eye-lids half closed, and frequently start, or groan.

The teeth are formed within the jaw, previous to the birth of the infant; and evident signs of pain and irritation in the gums, and an increased discharge of saliva, are apparent about the third or fourth month, though they seldom cut all their teeth until nearly two years, and sometimes even later.

There are only ten teeth in each jaw evolved during infancy, and these are not permanent. The two fore teeth of the lower jaw first appear, and in about a month those of the upper jaw come through. Then the two lateral ones of the lower jaw, and

next those of the upper one appear. These are succeeded by four grinders, and then the eye-teeth as they are called. These are the primary or milk-teeth, which are shed, agreeable to the order in which they came, and are replaced by other teeth, more permanent, larger and better formed, and their roots longer and more extended. A variety of circumstances may occur, which will interrupt the regularity of this process; but every deviation does not constitute disease, nor afford a sure indication of more difficult, or more easy dentition. It has been observed as one of the phenomena of teething, that, in the greatest number of instances, the first dentition commences at seven months, the second at seven years, and its progress is completed at the end of the third septenary, that is at twenty-one years.

Many children pass through this important period with so great ease and regularity, as not to have any observable alteration in their usual health produced by it. But when dentition is difficult, there is no occurrence to which they are liable, attended with such grievous and distressing effects. The symptoms which usually precede or accompany it, are a considerable irritation of the mouth; the gums are hot, itchy, swelled, and spread; the secretion of saliva is increased, the child constantly drivels; the actions of the stomach and bowels are performed imperfectly, or are occasionally suspended; there is often a circumscribed redness in the cheeks, eruptions appear on different parts; a looseness ensues, with gripings, and the stools are of a green, pale, or leaden blue colour, sometimes containing mucus, and often thick; and the child is watchful and peevish, starts during sleep, and sometimes general convulsions of the voluntary muscles take place. These symptoms, in very irritable habits, when the tooth advances fast, or several teeth push forward at the same time, are followed by fever, difficulty of breathing, spasmodic cough, scrofula, marasmus, and convulsions.

Among the symptoms of less importance, which sometimes attend dentition, may be mentioned a swelling of the tops of the feet and hands, and also a transient palsy of the arms or legs, but these are seldom of long continuance.

The influence of the seasons, and constitutional differences of the human system, are not more apparent in any disease, than in dentition. It has been observed that infants cut their teeth more readily in the spring and winter, than in summer and autumn;—

The lean more easily than the fat;—Strong and healthy earlier than the weak and tender; and those children whose bowels are regularly open suffer the least.

The most troublesome and alarming disorders which attend dentition, and require the most prompt and efficacious remedies, are diarrhœa, cholera infantum, fever, convulsions, and affections of the lungs. Each of these shall be separately but briefly considered; reserving a more full and particular discussion of these subjects for another part of this work. Acidities, flatulency, gripes, costiveness, and sore ears, are to be obviated by those means which have been recommended when treating of these complaints.

When a spontaneous purging arises during dentition, unattended with fever, not profuse, and the child preserve a good appetitite, it ought not to be hastily stopped. It is to be considered rather as a beneficial, than a prejudicial discharge, and may prevent the occurrence of more serious symptoms. But if it should continue long and violent, so as greatly to weaken and debilitate the child, attended with a gradual emaciation, the countenance pale and dejected, the eyes dull and heavy, a peculiar sinking of the features, and slight febrile paroxysms, it becomes an alarming disease, and is termed the *diarrhœa* of dentition. Under these circumstances, the proper practice is to cut the gum over that tooth which is farthest advanced, if inflamed and distended. The incision should be made on the anterior part of the gum, in the course which the tooth takes in the gum, and carried so deep as to reach the tooth. It is also necessary that the incision should be made in this manner, to prevent the connecting membrane between the first and second set of teeth from being divided. Attention to the quality and quantity of food is necessary, and the frequency of administering it. If the mother's milk is abundant, it will be all the food the child will require; and is to be preferred to all other food, as it is the most grateful to the palate, the most easily retained, and the most perfectly digested by the stomach. For a child which does not nurse, milk new from the cow is the best substitute for the breast. But if this cannot be procured, the next in order of preference is arrow root, or some aqueous nutriment as nearly resembling milk as can possibly be prepared. An excellent beverage of this description can be obtained by boiling several hours, a handful of dry flour closely confined in a cloth, until it becomes

perfectly hard; when cold, a table spoonful of it finely grated, is to be mixed with half a pint of boiling milk, sweetened, and a teacupful taken as often as necessary. Active purges, such as castor oil, senna, and calomel, must be employed in the commencement of the disease, in such quantities as will evacuate the contents of the stomach and bowels, or destroy the irritating effects of these substances on those organs. The operation of the cathartic may be followed by a gentle anodyne, given at bed time, to allay the irritation, and to procure a respite from pain and suffering. The remainder of the cure is to be conducted on general principles.

This disease is frequently succeeded by the *cholera infantum*, which is peculiar to teething children, and in its mild form resembles a severe attack of the diarrhœa. There are certain symptoms common to both diseases, but the cholera infantum may be easily distinguished by the following characteristic appearances. It generally commences with flatulency in the stomach, and sharp griping pains in the bowels, succeeded by a severe and frequent vomiting and purging of great quantities of bilious matter, and a constant and urgent thirst. The child is distressed and restless for some time after taking food, which is thrown up again, almost as soon as swallowed, and from the very irritable state of the stomach, it is very difficult for any kind of medicine to be retained on it. The appetite is much impaired, and, in consequence of the weakened powers of the digestive organs, the stools contain small curds of milk, or portions of undigested food, but rarely much fæculent matter. The colour and consistence of these discharges are various; they are sometimes yellow, but more commonly either green, or white, or brown, and are thin, watery, or mucous; and they smell sour or putrid. In frequency they vary from three or four to twenty during twenty-four hours.

It sometimes happens, that robust children are attacked with a considerable degree of *fever* during dentition, in which case the loss of a little blood, either by the lancet, or leeches behind the ears, has been recommended as necessary. But it must be recollected that they suffer more from bleeding than from other evacuations. It will be advantageous to administer small doses of antimonial wine, from six to ten drops according to the age and other circumstances of the child, together with diluting liquors, if it does not nurse, in order to promote perspiration. As there is generally a constipation of bowels, it will be necessary to give a

smart purge, and keep the bowels open afterwards by magnesia. The spirit nitre dulcis, in doses of eight or ten drops added to the antimonial wine, and small blisters applied behind the ears, are often employed with advantage. Opiates are not to be administered unless the bowels have been previously opened, the pain severe, and the respiration free and easy.

Children are sometimes attacked with *convulsions*, the most alarming and dangerous complaint that accompanies difficult dentition. As these are produced by an irritable, or excitable state of the nervous system, we should without delay scarify the gum, through which the tooth is forcing a passage, and this operation may be repeated for several successive days, until either the tooth appears or the convulsions cease. If slight scarifications do not procure relief, the incision should be carried boldly down to the tooth, although no swelling be discovered. We are at the same time not to neglect the bowels, which should be kept perfectly open. We may further attempt to lessen the irritability of the system by anti-spasmodics, as assafœtida, castor, and valerian; or what is still more efficacious, the pothos fœtida, or skunk cabbage. A strong infusion of the root of this domestic plant may be given in doses of a large spoonful every few hours, until relief be obtained. Blisters and the warm bath, will prove useful auxiliaries. Should there be any objection to tepid bathing, the pediluvium may be at any time proper.

As a general direction, light nourishing diet, preserving the bowels in an open state, restraining immoderate evacuations, proper exercise, pure air, and all those means which have a tendency to promote general health, will contribute to the safety of dentition, and facilitate its process.

Many of the ancient physicians recommended certain charms and amulets, but these futile inventions scarcely survived their superstitious patrons. And modern custom has adopted a practice equally ridiculous, if not worse than useless, of giving children during teething, gum-sticks, coral, and other hard substances, to put into their mouth. But every parent and nurse ought to know, that the natural tendency of these means is to harden the gum, by which the process of absorption is rendered more difficult. If any application is made to appease the anguish of the gums, let it be the finger, which is soft, yielding, and easy, and will serve every necessary purpose.

The Cholera Infantum, or vomiting and purging of Children.

This is a prevailing malady in most of our cities during the months of summer and autumn, and a multitude of children are the victims of its annual visitation. It has been the subject of investigation by many ingenious authors, and the accurate description which follows, is nearly in the language of the late celebrated Dr. Rush.

It sometimes begins with a diarrhœa, which continues for several days without any other symptom of indisposition, but it more frequently comes on with a violent vomiting and purging, and a high fever. The matter discharged from the stomach and bowels, is generally yellow or green, but the stools are sometimes slimy and bloody, without any tincture of bile. In some instances they are nearly as limpid as water. Worms are frequently discharged in each kind of the stools that has been described. The children in this stage of the disease appear to suffer much pain. They draw up their feet, and are never easy in one posture. The pulse is quick and weak. The head is unusually warm while the extremities retain their natural heat or incline to be cold. The fever is of the remitting kind and discovers evident exacerbations, especially in the evenings. The disease affects the head, and in some instances violent delirium ensues; the child throws its head backwards and forwards, and attempts to scratch and to bite the attendants. Swelling frequently occurs in the abdomen and in the face and limbs. An intense thirst attends every stage of the disease. The eyes appear languid and hollow, and the children generally sleep with them half closed. Such is the insensibility of the system in some instances in this disease, that flies have been seen to alight upon the eyes when open, without exciting a motion in the eye-lids to remove them. Sometimes the vomiting continues without the purging, but more generally the purging continues without the vomiting, through the whole course of the disease. The stools are frequently large and extremely fœtid, but in some instances, they are not, and are small, resembling the drinks and aliment which have been taken into the stomach. The disease is sometimes fatal in a few days. Its duration is varied by the season of the year, and by the changes in the temperature of the weather. A cool day frequently abates its violence and disposes it to a favourable termination. It often continues with occasional varia-

tions in its appearance for six weeks or two months. Where the disease has been of long continuance, the approach of death is gradual and attended by a number of distressing symptoms. An emaciation of the body to such a degree, as that the bones come through the skin, livid spots, singultus, convulsions, a strongly marked hippocratic countenance, and a sore mouth generally precede the fatal termination of this disease.

We have also a striking delineation of this disease from the pen of Dr. James Jackson, medical professor in Harvard University, in an elaborate and practical essay on the morbid effects of dentition.* According to the observations of this sensible writer, cholera infantum is peculiar to teething children. It rarely occurs before the eighth or ninth month, and seldom commences in children who are past eighteen months of age. We seldom find this disease in any of its severe forms among infants at the breast; and those children who are accustomed to the free enjoyment of open air, are comparatively very little subject to the cholera of infants. In his animated sketch, the professor presents the child "asleep in its crib, cold amidst the load of woollen in which it is wrapt, unless during a febrile paroxysm, when an arid warmth is spread over it; so peculiarly dead are the limbs in their appearance, that it would seem that life was preserved only in its sacred temple in the centre of this 'little world;' its countenance more than deathly, and with which the visage of pulmonary consumption will scarcely compare; its pulse quick and wiry, and its respiration scarcely to be heard. So strongly, under these circumstances, are the characters of death impressed on the little subject, that the inexperienced observer cannot doubt that a few hours will decide the case for ever. That the appearances have been the same for days, and even sometimes for weeks, seems to him impossible. But in this situation the patient may continue for weeks with some fluctuations, and at length recover."

In all the forms of cholera infantum the breast milk is unquestionably the most suitable food; where the patient does not nurse, cow's milk fresh from the animal should be employed. Cow's milk may often be rendered more particularly suited to certain cases, by mixing with it half its quantity of lime water, and some-

* Vide New-England Journal of Med. and Surgery, Vol. I. This excellent sketch is recommended to the attentive perusal of every medical practitioner.

times they should be boiled together. Next to milk, unless when the stomach is in the most irritable state, animal food is to be preferred, and this in a solid form moderately broiled or roasted, provided the appetite and digestion are favourable to it. The pure juice of meat obtained by broiling, or extracted by boiling in a bottle as directed in the Appendix, will sometimes answer a valuable pupose, when neither solid meat nor milk can be easily borne. On some occasions, the farinaceous and mucilaginous substances, as arrow root, sago, &c. will be found more agreeable to the patient's stomach than any other food. The quantity both of food and drink, should always be small, and in a state of great irritability of the stomach not more than a tea-spoonful should be given at a time, and not too frequently repeated.

In the medical treatment of cholera infantum, the first indication is to discharge the acrid and offensive contents of the stomach and bowels. About fifteen or twenty grains of ipecacuanha may be given at the onset, and repeated occasionally, unless we except those cases where from a long continued spontaneous vomiting, the strength is greatly reduced, the pulse feeble, and the heat has receded from the extremities. If an emetic is deemed improper, a dose of calomel adapted to the age and strength of the patient will produce the happiest effects; and in many instances calomel and ipecacuanha conjoined, about three or four grains of each, will be found of singular efficacy in expelling the offensive contents of the stomach and bowels. After the first passages are sufficiently cleansed, opium should be added to the calomel, and this forms one of the most efficacious and powerful remedies that can be prescribed. Experience has evinced, that these two active medicines correct, regulate, and soften the powers of each other. The proper proportion of this compound is three parts calomel to one of opium; the dose of which, and frequency of repetition must be varied according to existing circumstances. About half a grain of the compound intimately mixed, may be given to a child eighteen months old, and repeated every three, four or six hours according to the urgency of the symptoms and the effect produced. It may be formed into pills with mucilage of gum arabic, or mixed with a few grains of prepared chalk. If the patient should be inclined to be costive, magnesia may be freely administered; or a few grains of jalap may be added to the calomel, or a full dose of this last given and followed by a dose of castor oil. When con-

stant looseness prevails, absorbents are indicated, as lime water, and prepared chalk, or a few drops of laudanum may be combined in a chalk julep with peppermint. A solution of the alkaline salts of tartar, or soda, will in most cases be extremely useful in correcting acidity in the stomach, and mild carminatives, as infusion of aniseed, carraway, and calamus arematicus, will tend to relieve symptoms of flatulency. The spirits of turpentine is now gaining reputation for its efficacy in checking the disordered action of the stomach in cholera infantum. In doses of from ten to thirty drops, repeated three or four times in the course of the day, it is said never fails to produce the most favourable effects in relieving vomiting, correcting vitiated secretions and a tendency to griping and irritation of the intestines; and if continued at proper intervals during the continuance of the disease, it restores a healthy action through the system. Demulcent and diluting drinks, as infusions of marsh-mallows, the shavings of hartshorn, and gum arabic, with cinnamon, together with clysters of mutton broth or of starch, with a few drops of laudanum, are among the remedies often employed, and they may have their use. Great advantages may be derived from external remedies applied to the abdomen; these are warm or tepid bathing, flannels dipped in infusions of bitter and aromatic herbs, or warm spirits or wine. To these should be added friction, rubefacients and blisters. The tincture of flies of greater or less strength, is admirably calculated to answer the double purpose of rubefacient and vesication, and should in no case of severity be omitted.

In the advanced stage of cholera infantum, when all acrid and offensive substances have been entirely evacuated from the bowels, astringent medicines become necessary, one grain of alum given two or three times in a day has been administered with great success, and sugar of lead, in doses of half a grain for a child a year old, and repeated according to the exigency of the case, has also effected cures, but these are to be cautiously employed. Catechu is a mild but excellent vegetable astringent, and may be administered in this disease, either in tincture or infusion with a prospect of superior advantage.

In many instances of cholera infantum, a considerable inequality as to the heat of the different parts of the body is observable. Those parts of the body which are heated beyond the natural standard, should be exposed to a stream of cold air several times

in a day, and should be washed with vinegar and water moderately cool, by means of a sponge. When the head is unusually hot, attended with redness of the face and eyes, and delirium, that part should be frequently washed in the coldest water. If the extremities are too cold, they should be covered with flannel, and sinapisms applied to the feet. Another remedy to be mentioned, is the injection of cold water into the intestines after their offensive contents have been thoroughly evacuated; this is said to be of superior efficacy as an anodyne, sedative, and antispasmodic. When the force of the disease has been subdued, and a state of convalescence commenced, the vegetable tonics, as decoctions of the bark of cinchona, angustura, columbo, with cinnamon, and wine and brandy, will have the effect of restoring the healthy state of the system. But in every instance where the measure is practicable, the exhausted patient ought to be removed into the country for the benefit of fresh air, which is of the utmost importance. It is mentioned in *Med. Repos.* Vol. I. *New Series*, that a strong decoction of a plant called *Erigeron Canadense*, or Fleabane, has proved an effectual remedy in this disease.

Among our vegetable astringents to be employed after the inflammatory symptoms have been subdued, there are none to be preferred to the marsh-rosemary, the geranium, maculatum, and the common black-berry. A decoction of the roots of these, when freely used, will prove highly serviceable.

Tinea Capitis, or Scald-Head.

The scald-head consists of small ulcers in the skin of the hairy scalp, at the roots of the hair, which discharge a matter running into a dryish scab, or thick scales of a white or yellowish colour, attended with an offensive smell. This disgusting complaint arises frequently from uncleanliness and improper food, or an unhealthy nurse; but it is often communicated by contagion, either by using a comb imbued with the matter, from the head of a person affected with it, or by wearing his hat or cap, In its recent state, while it is merely a complaint of the skin, the scald head may be safely and successfully treated by topical applications. The hair is first to be cut close or shaved, and the scabby patches are then to be washed daily with warm soap suds, or an infusion of tobacco, taking care to remove the scabs at each washing; after which apply

an ointment made of equal parts of sulphur and flour of mustard, mixed up with hog's lard, or the ointment of nitrated mercury, commonly called yellow ointment. If the disease has considerably extended itself over the head, and remains obstinate after several days trial of the above method of treatment, it has been advised to rub in forcibly the common tar ointment, with a good proportion of the powder of white hellebore, for near an hour at a time, while warm, and the head is afterwards to be covered with a bladder or cap. This process having been repeated three or four times, not only the scabs but the hairs also will, it is said, become loose, and must be pulled out. When new hairs spring up, free from scabs, it is a proof that the disease is subdued.

From some recent experience, I am confident that we have a domestic plant, easily procured, which will seldom fail to cure this troublesome and loathsome disease, if properly applied. The plant I refer to is the kalmia, or laurel, of which we have two species in our woods and swamps; the broad-leafed laurel, or winter green, and the narrow-leafed laurel, well known by the name of lamb-kill, from its fatal effects among sheep. The last species is said to be the most active.* Take the leaves of laurel or lamb-kill, at any season of the year, boil them till the water is strongly impregnated with their virtues, and then wash the scabby parts about the head twice in a day, until a perfect cure is effected. It will excite considerable smarting, but if it cannot be borne it may be made weaker. Another mothod of using this remedy is to reduce the dried leaves to a fine powder, and make an ointment by mixing it with hog's lard, to which some of the powdered root of our swamp hellebore may be added, if desired. This remedy ought in my opinion to be preferred, as it is far more neat and cleanly than either the sulphur or tar ointment, and unquestionably of equal efficacy. In those cases where this disease has been of long standing, and the general health is impaired, it may be advisable to put the patient under a moderate alterative course of Plummer's pills, or æthiops mineral, and to direct a purge at proper intervals. It may also be proper on some occasions to open an issue and keep up a discharge for several weeks after the cure is effected. There is in the Medical Repos. Vol. I. Hex. 3d. an ac-

* See American New Dispensatory, where it will be perceived that I am indebted to Drs. Barton and Thomas for the first information respecting this plant.

count of the treatment of tinea capitis by a Mr. Morrison, which is represented as being remarkably successful in the most desperate cases. He directs the head first to be shaved closely as possible, immediately after which he applies a common poultice to soften the incrustation. The head is then to be washed with soap suds, and the following paste spread on strong linen applied. Take of yellow resin, two ounces, best ale, one pound, of the finest flour, three ounces. The ale and flour are to be first mixed and then gradually added to the melted resin. This paste must be removed and re-applied daily until a cure is effected.

The ointment described in the Appendix, applied in the same manner as the above, will prove equally successful, as will common snuff formed into an ointment with fresh butter or lard.

Chilblains.

This troublesome complaint consists of purplish shining swellings of the feet, heels, and hands, attended with intolerable itching and some pain. They are the effect of inflammation arising from sudden changes of temperature, and usually attack children in cold weather. Chilblains are particularly apt to occur in persons who are in the habit of going immediately to the fire after being exposed to a severe degree of cold, or who go suddenly into the cold while very warm. The best method of preventing chilblains is carefully to avoid the causes just mentioned, to wash the hands and feet in cold water daily, and to keep them covered in winter with woollen gloves and stockings. At the first approach of the complaint, the parts affected should be plunged into the coldest water, or rubbed with snow, and continued for a considerable time, and frequently repeated until all unpleasant sensations be removed. When the skin becomes much inflamed and a swelling ensues, the patient ought to take a dose of physic, and to have the affected parts well rubbed with some warming applications, as mustard and brandy, spirit of turpentine, or vinegar and brandy mixed with the addition of a little alum. I have known the mucilage of slippery elm bark afford considerable relief; but I have experienced nothing so particularly useful as equal parts of the soap liniment or opodeldoc, and the tincture of myrrh applied to the parts. A mixture of the oil of turpentine and balsam of copaiva in equal parts, is a celebrated application. The ointment of snuff, advised for scald head, is deserving of trial.

Of the Venereal Disease in Infants.

It is an established opinion that infants may be affected with syphilis before birth, or during its expulsion through the vagina where chancres exist, or by sucking an infected nurse. The first is the most frequent method, and the consequence of infected parents, although we may not be able to trace any marks of the existence of the disease in either of them at the time, or it may be, many years after a cure has been apparently effected. In such cases it is common for the mother to have frequent abortions, or premature births, without any evident cause, and the child appears half corrupted and ulcerated. These circumstances will serve to aid our diagnosis in any particular instance; there is, however, no infallibility to be attached to them, for any cause occasioning the death of the fœtus a considerable time before its expulsion may produce similar appearances.

In some instances the child at its birth exhibits the symptoms of venereal affection, but more frequently these are not apparent until ten or twelve days afterwards, though it may be feeble and rather emaciated. The symptoms are generally an inflammation of the eyes, the cuticle appears wrinkled, or peeled off, and sometimes scabby eruptions cover the body; copper coloured blotches ending in ulceration appear on the surface, but more particularly about the genital parts. Foul sores cover the inside of the mouth and lips, surrounded by a whiteness of the skin as if the part had been recently rubbed with lunar caustic. If the child receive the infection from the nurse, ulcers are discovered on the nipples, and the disease appears on the child's mouth before the surface of the body be affected.

The only method by which a cure of lues venerea can be effected, is to administer a course of mercury either to the nurse or directly to the infant; the latter is found by experience to be the most successful practice. About one quarter or half a grain of calomel may be given two or three times in a day according to the effects produced, and continued for some time after all the symptoms have disappeared. If mercurial frictions be preferred, about fifteen grains of the ointment may be rubbed on the thighs every night until the mouth become hot, when it is to be intermitted or continued according to the state of the system and the effect on the disease. The following preparation has been found both safe

and efficacious. Dissolve two grains of corrosive sublimate in one ounce of brandy, of which three drops may be given to an infant at the breast, and increased to four when a year old, and to six or eight when arrived to three years, and repeated three times a day. If the child's bowels be affected with the mercury, opiates in small doses must be given. See chapter on Syphilis in this volume.

APPENDIX.

OF LEECHES, (HIRUDO MEDICINALIS.)

The employment of leeches as medicinal agents has become so universal in practice, that every physician will find it incumbent to make himself acquainted with their character and properties.

Of this animal there are various species, some of which are more valuable than others for their use in drawing blood. The medicinal leech is commonly about two or three inches long, and its head is turbinated. Its back is of a dull olive green colour, divided into three nearly equal parts by four yellow longitudinal lines, the two lateral entire, the two central broken with black. Besides these, between the lateral and central lines on each side there are two others resembling a chain of black and yellow. The belly is turkey blue, irregularly marked with yellow spots. But the bite of those found in stagnant waters, or the horse leech as it is termed, being entirely brown, or only marked with a marginal yellow line, is said to cause pain and inflammation, and should be rejected. Leeches should be collected in the summer in ponds having a clear sandy bottom, and preserved for use in a bottle half filled with pure spring or river water, and covered with gauze or muslin. The water should always be kept in a moderate temperature, and ought to be changed frequently, although there are instances of their living many months, and even years in the same water, and it is remarkable that water in which they are kept continues much longer sweet than by itself.

Leeches are very useful and convenient remedies in every case requiring local blood-letting. They cause less irritation than cupping, and can often be applied nearer to the part. They are employed in all local inflammations where general blood-letting will be improper; the particular circumstances which require their use have been mentioned in the course of this work. The application of leeches is sometimes attended with considerable difficulty. In cloudy weather and in the evening they do not readily bite. If kept out of the water some minutes and allowed to crawl on dry linen and then moistened with warm water before they are applied, they are said to bite more eagerly. The part to which they are to be applied should be well washed, and if covered with strong hairs should be shaved, and the skin may be moistened with a little blood or warm milk. The leeches should be confined by an inverted glass or cup over the part from which the blood is to be

drawn, and when a sufficient number have fastened, the glass may be removed. A few drops of blood should be first put on the skin, or it may be rubbed over with a piece of fresh beef, and having wiped the leech dry with a linen cloth, take it between the thumb and finger by the middle, and apply its mouth to the spot you wish, remembering that the small end is the head, although the tail is much broader. When first applied it is apt to twist and extend itself, attempting to seize on some other part, but it must be repeatedly drawn back and re-applied, until at length it will fix upon the desired spot, and when it has taken a firm hold it may be left to the enjoyment of its labours. When the animal has fastened it expands the tail and sometimes attaches it to another part, and does not let go till it is gorged with blood, when it drops off all at once. A large leech will draw about an ounce of blood; but the quantity may be much increased by bathing the wounds with warm water, or applying over them cupping-glasses. It is on some occasions found necessary to employ from ten to twenty, or even thirty leeches in order to draw a sufficient quantity of blood. When they have gorged themselves with blood, they drop off and not unfrequently die of indigestion, and cause a great mortality even among those that have not been employed. To avoid this danger, leeches which have recently sucked should be kept by themselves until they have recovered their usual vigour; and a little salt applied to the head of the animal will occasion it to vomit up the blood which it has received. These insects change their skin frequently; at that time they are subject to indisposition and will not bite.

OF COLD AND WARM BATHING.

Baths receive various denominations, not only according to their different degrees of temperature, but also as to the manner and form in which they are employed. They are distinguished into the *cold*, *tepid* or *temperate*, *warm*, and *hot baths*. To these may be added the *steam* or *vapour bath*, the *air bath*, and *earth bath*. Baths may be either generally or partially applied. When water, either cold or tepid, is thrown over the body from a bucket, or by means of a constructed apparatus, in a shower, it is termed *affusion*, or shower bath. The immersion of the feet in warm or tepid water is professionally termed *pediluvium;* and when the lower half of the body is immersed in a similar bath, it is denominated *semicupium*. When the naked body is exposed for a considerable time to the cold air, this is termed the *air bath*, a practice recommended by Franklin as a substitute for bathing; and when the naked body is surrounded with sand, or buried up to the shoulders or neck in the earth, it is said to be placed in a *sand bath;* from which, however, very little utility can be expected.

The "*cold bath* is that which possesses the ordinary temperature of the atmosphere in the temperate climates, varying from 32 to about 65 degrees of Fahrenheit's thermometer." Whether bathing in sea water, or in ponds or rivers, the effects cannot be essentially different. On some occasions, however, the salt with which sea water is impregnated may act as a gentle stimulus on the surface; and this effect will be increased by heat, friction, or a long immersion; but in cases where the immersion is only momentary, or where affusion is employed, and where the body is immediately dried, salt water can have no advantage over that which is fresh. The immediate effect produced in a person in ordinary health, on being immersed in the cold bath, is a sensation of cold and a sudden shock to the whole system, which is almost immediately succeeded by as general a sensation of warmth; the latter rapidly increasing, so as to cause the surrounding water to feel of an agreeable temperature. After a sudden immersion, if the body be immediately wiped dry and clothed, the agreeable sensation of warmth continues, the system is invigorated, and generally the natural perspiration is promoted. If, however, the body continues long immersed, and the water be extremely cold, the sensation of warmth ceases, and is followed by violent shivering and numbness of the extremities, a series of alarming symptoms supervene, and at length delirium and torpor ensue, and the person is destroyed by a fatal apoplexy. The increase of animal heat which takes place immediately after the cold, occasioned by the first immersion, constitutes that *re-action* of the system, which enables it to resist an external impression by which it might be injured. This re-action is in proportion to the intensity of the cause by which it is excited, and to the vigour of the vital powers. It is this re-action of the system by which all the advantage from the application of the cold bath is derived; and when the re-action does not occur, or takes place only in a small degree, it is evident that the cold bath has been injudiciously or excessively employed. When, therefore, the system has been debilitated by long continued exertion or disease, where the temperature of the body is below the natural standard, or where a profuse perspiration has come on, cold bathing should be avoided as injurious.

The employment of the cold bath, it appears, is attended with three principal effects: a sudden and powerful shock given to the body, a sudden abstraction of heat from the surface, and the re-action of the system to counteract the shock, and to restore the diminished temperature. In its general and primary effect, therefore, the cold bath acts as a powerful stimulus to the whole system, and to this effect its advantages as a remedy are chiefly to be ascribed. Cold bathing has been found by experience to prove highly advantageous in all those cases where the temperature of the body continues steadily above the natural standard, as in acute or ardent fevers, the hot stage of intermittents, yellow fever, &c. by reducing excessive heat and producing a salutary re-action of the system. It has been employed with beneficial effects in *tetanus* or

lock-jaw, in those convulsions which so commonly affect young children, in insanity, and in several chronic diseases, particularly chronic rheumatism. When used by persons in health, it increases the tone of the muscular fibre, strengthens the digestive organs, and by diminishing the sensibility of the whole system, and particularly of the skin, renders the body less susceptible of atmospheric impressions from cold, wet, and sudden changes of temperature; thus contributing to the production of what is termed a robust or athletic constitution; and thus fortifying the system against contagious and febrile diseases. It is peculiarly adapted to those constitutions which are often liable to hysteric, hypochondriacal and paralytic affections, as well as to frequent attacks of flatulency and consequent indigestion, as it stimulates the nerves and excites to those powerful exertions on which the vigour of the system so much depends. Cold bathing is eminently beneficial in cases of rickets in children, and is useful to preserve them from the bowel complaints which prevail in the summer months throughout the United States. This powerful remedy is to be regarded as inadmissible in all those cases where the heat of the body is below the natural standard, or where a profuse perspiration has come on; where there is any considerable degree of *plethora*, or unusual fulness of the blood-vessels; where the person is subject to inflammatory affections of the lungs, or any considerable determination of blood to the head; it should also be prohibited in hæmorrhages, in constipations, difficult breathing, short and dry coughs, &c.; in scurvy, in fits of the gout; in cutaneous diseases, and where from constitutional weakness, or unconquerable dread, the use of this remedy may be productive of unpleasant feelings. With respect to the condition of the body when recourse may be had to this powerful agent, and the most proper mode of employing it, it must be remarked, that the morning or forenoon is the most suitable time, either when the stomach is empty, or two hours after a light breakfast. It is an erroneous and unfounded opinion, that immersion in cold water when the body is considerably heated by exercise or other exertion, is a dangerous practice; on the contrary, no person should ever enter into it while the body is in a state below the natural standard, but should first employ such a degree of exercise as will produce some increased action of the vascular system with some increase of animal heat. It is in this condition of the body only that the application is productive of a shock, without which not the smallest benefit arises from cold bathing.

In bathing, it is unquestionably proper to sink the head and whole body under water with all convenient expedition; but to effect this, a headlong plunge is by no means requisite; yet the more speedily this process is performed, the less will the bather be affected by a sort of convulsive respiration. The sobbing and irregular breathing produced on entering the water, are always most harassing while one half of the body is under water, and the other half exposed to the air. If in consequence of going into the

bath in an improper state of health, or of remaining too long in the water, the perception of cold and shivering should become painful or alarming,—the person ought without delay to be put into a warm bed, and a bladder filled with hot water should be applied to the pit of the stomach. The last experiment is the most effectual method of restoring warmth to the living body, in all cases where, from chance or necessity, it has been long exposed to intense cold. Independently of these circumstances, the practice of returning to bed, after bathing, is always to be reprobated.

Immediately after immersion the body ought to be rubbed with a dry and coarse cloth, and moderate exercise out of doors, if convenient, should be employed. If a glowing warmth pervade the whole body after retiring from the bath, beneficial effects will certainly follow; but if the person feels heavy, inactive, or chilly, or finds himself affected with head-ach or tightness across the chest, it is evident that it disagrees, or that it has been too long continued, and may prove hurtful.

The *shower bath* may often prove an eligible substitute for immersion, and on some accounts this possesses superior advantages, as considerable benefit is derived from the gravity as well as the tonic power of the water. The head and breast are secured from danger by receiving the first shock, and the water is quickly transmitted over the whole body. The temperature and quantity of the water, too, may be more easily modified and adapted to the circumstances of the patient. From the foregoing observations it must appear obvious that the cold bath is capable of producing extraordinary effects; and is not equally adapted to all constitutions and circumstances, nor can it be employed indiscriminately with perfect impunity. There is much reason to suppose that many invalids, delicate females, and young puny children, have been materially injured in their health by an injudicious and unadvised resort to this very powerful application.

The *tepid bath* may be at the temperature of about 80 to 86 degrees, and the *warm bath* from 90 to 98 degrees of Fahrenheit's thermometer, or about the same temperature with the blood. It has been supposed till very lately that one constant effect of the warm bath is to relax and debilitate the body; but numerous experiments seem to prove that this opinion was founded in error, and that, on the contrary, persons debilitated by disease, have felt stronger on the days when they used the warm bath, and were soon restored to their former strength. If in any cases relaxation and debility follow the use of the warm bath, it is to be attributed to the heat of the bath having been too great for the constitution of the patient, or the immersion having been continued too long. The stimulant effects of the warm bath are very inconsiderable, and it is found useful in allaying irritation, diminishing morbid frequency of the pulse, relaxing and purifying the skin, and in inducing sleep and repose. The warm bath will be attend-

ed with advantage in those cases of fever where the heat is preternaturally great, but where, from some affection of the lungs, or other unfavourable symptom, cold bathing is inadmissible; in the paroxysms of hectic fever; in several eruptive diseases attended with increased heat and dryness of the skin; in atonic gout and rheumatism, accompanied with stiffness and swelling of the joints; in chlorosis; in slight cases of palsy; in scrofulous swellings; in some spasmodic and convulsive affections, where the cold bath might prove too violent; in all those affections of the bowels that seem to depend an an irregular or diminished action of any part of the alimentary canal; and in cases of debility attended with nervous irritation. In cases of predisposition to phthisis, it abates the frequency of the pulse, and tends to retard, at least, if it does not wholly prevent, the pulmonary affection. The time of continuing in the warm bath should be varied according to the temperature of the water and the feelings of the patient. In a bath of ninety-six, a person may remain fifteen, twenty, or thirty minutes; but in one of ninety-eight or one hundred, which is the temperature of the *hot bath*, ten minutes is the extent to which most persons can bear. When the warm bath is intended to produce increased perspiration, it is best employed in the evening, and the patient should be removed from the bath to a warm bed. Where, however, it is not intended to excite sweating, the most proper time is about two hours after breakfast; and after bathing, gentle exercise in the open air should be employed. Friction with a coarse cloth while in the water will often prove extremely beneficial. The *vapour* or *steam bath* is a modification of the hot bath. "It consists in the application of steam, brought by pipes from a vessel of boiling water, and either admitted to the whole body placed in a chamber for that purpose, or to any particular limb enclosed in a proper apparatus. The room is heated to a temperature considerably above that of the atmosphere, and the naked body is for some time suffered to remain in this heated air; the common effect of which is to increase its temperature, and accelerate the circulation of the blood. After some time the steam is admitted, and a profuse perspiration is soon produced. This is generally promoted by friction, and a removal to a warm bed. The general effect of this process is, to relax the body, remove obstructions of the skin, alleviate pain and spasmodic contractions, and promote sleep."

For the substance of the foregoing observations, the public are indebted to the late ingenious Dr. Currie, of Liverpool, and to Dr. Sanders on mineral waters, an account of which may be found in the original works, in Rees' Cyclopædia, Edinburgh Encyclopædia, and American New Dispensatory, 2d edition.

The *vapor bath* has been recently introduced into the United States. It consists in applying to the skin and inhaling into the lungs, a warm and rarefied atmosphere, charged with aqueous vapour. This vapour may be medicated by containing the volatile

principles of certain vegetable substances. In this bath the heat of the surface of the body is raised, perspiration follows, the blood-vessels of the skin being filled and excited to a brisk action. The temperature and fluids of the system are thus equalized and properly distributed. This bath cures or relieves a greater number of morbid affections and derangements of the animal mechanism than any other form of bathing; and what renders it peculiarly valuable and acceptable, is the speedy and entire relief it affords in numerous instances. It is highly useful in rheumatism, cutaneous complaints, scrofula, palsy, gout, catarrh, febrile affections, piles, scanty, difficult and painful, or suppressed menstruation, erysipelas, &c. &c.

OF THE MINERAL WATERS OF BALLSTON AND OF SARATOGA.

THE DISEASES IN WHICH THEY MAY BE EMPLOYED AS REMEDIES.

Among the numerous medicinal springs of which the United States can boast, those of Ballston and Saratoga have obtained the greatest celebrity, and become a fashionable annual resort of a train of invalids from various parts of the union. It is therefore essentially important that their medical properties and virtues be clearly ascertained, and the diseases in which they may be successfully employed accurately discriminated. "For it is an unquestioned law in medicine, that that which possesses active curative powers in one set of diseases, is equally detrimental in others." Both Professor Hosack and Dr. Valentine Seaman, one of the surgeons of the New York hospital, have devoted considerable attention to the analysis and experimental investigation of the mineral waters of Ballston and Saratoga. The sentiments of the former gentleman have been promulgated in the American Medical and Philosophical Register, and those of the latter, in an ingenious dissertation on the mineral waters of Saratoga, &c. It appears from their experiments, that "the *carbonic acid*, *salt and iron*, are the principles upon which we should chiefly ground our calculations of the use of these waters;" and that diseases of debility are those in which they are prescribed with the greatest advantage and success. In dyspepsia these waters have been found eminently beneficial, and in dropsy, hypochondriasis, hysteria, paralysis, chronic rheumatism, gout in its chronic state, and in chlorosis, and fluor albus, they have been employed with much advantage. But in calculus or gravelly complaints, these waters have been found singularly efficacious. "Here, then," says Dr. Seaman, "we have in these waters all the remedies that have proved the most efficacious in such affections, viz. a superabundant carbonic acid, the carbonate of soda and lime. Indeed, the benefit experienced by those who have drank of them fully answers our expectations. A number of cases have come within my own particular know-

ledge; and Dr. Powell, whose long residence at the springs has given him a full opportunity of ascertaining the fact, assures me they are a valuable remedy in gravel, and that he has rarely seen a case of it where relief was not obtained." Other diseases in which these waters have afforded relief, are phagedenic and gangrenous ulcers, and various cutaneous eruptions, fevers and agues and scrofulous affections.

In a plethoric state of the system, in consumption of the lungs, inflammation of the liver, acute rheumatism, and other inflammatory affections, these waters are invariably injurious.

DR. JENNINGS' PATENT PORTABLE WARM AND HOT BATH.

By the polite attention of Dr. Samuel K. Jennings, I am authorised to occupy a few pages with an account of his new method of restoring warmth and heat to the surface and extremities of the body, by his patent warm and hot bath. A concise detail of his practical instructions must suffice on this occasion. It may not be improper to premise, that the spirituous vapour bath has been tested by repeated practical experiments in various hands, and received the sanction of the government of the United States; the Surgeon General of our late army, several hospital surgeons, and numerous individual medical and other respectable characters.

Since the visitation of the ravaging epidemic called spotted fever or cold plague, which is always attended with a torpid state of the vessels of the surface and extremities, physicians have been induced more than formerly to appreciate the means of applying artificial heat to restore the balance of excitement. Among the various applications employed for this purpose are, the warm bath, steams of hot water, billets of wood heated, twigs of pine or hemlock heated by hot stones, bladders or jugs filled with hot water, &c. The most of these have their inconveniences and defects, and it has long been a desideratum in practice to devise a more eligible mode of fulfilling the indication. In the discovery of Dr. Jennings we have the means of administering *dry heat* with the greatest facility and success, free from many of the evils and inconveniences of the usual methods of applying heat to the body. His method consists in conveying and diffusing the gas of burning alcohol or ardent spirits over the body of the patient. The tin cup containing burning spirits is placed on the floor, and a tin tube of proper length shutting over it, conveys the gas to the patient in bed. "By this invention," says the author, "every physician, and indeed every family may be furnished with a convenient, elegant and delightful method of applying heat. It may be put into operation in five minutes. The apparatus may be carried in a large pocket; it would scarcely incommode a pair of saddle-bags in travelling. It does not weigh three pounds. It may be applied to a patient

seated in a chair or lying on a couch, sofa, cot, or bed. It is used without water. And it can be safely applied to patients in the most helpless condition. So far as I have been able to extend my inquiries, my system is original."* The following is an abstract from one of the author's pamphlets.

"Heat is an agent which admits of such general application. Applied to the surface in an intense degree, it extinguishes vital power, and thus safely in a direct way lessens the force of feverish excitement.

"In the same mode of application it necessarily must be a powerfully diffusive agent, and furnishes the most natural and certain method of correcting any local affection. And when gradually applied in an agreeable temperature, it will never fail to produce cordial effects. And in fact in every delicate case, where a stimulant dose as wine or laudanum is absolutely necessary, these remedies would be infinitely more safe and effectual if a pleasant application of heat were first administered. With suitable variation in the degree and continuance of the treatment, according to the degree of violence of the disease, the patent steam bath will be useful in all the following forms of disease, viz.

"In colds, catarrhs, coughs, pleurisies, and in fever in its various forms, including that form of it now raging in different sections of the country and called by different names; none of which perhaps is more appropriate than that of the western country, where it is called the '*cold plague* or *cold skin fever*.' In local inflammations and other local affections, as sore breasts in female cases, in swelled glands, anthrax or carbuncle, sore throat, quinsy, ear-ach, tooth-ach, head-ach, especially that of the nervous kind, and in inflamed wounds, &c. In scrofulous, glandular, ulcerous, and eruptive affections, including St. Anthony's fire, nettle-rash, scald head, &c. In suppression of urine and other painful affections of the bladder, &c. In piles, whether blind or protruded. In hæmorrhage, whether from the lungs, as in hemoptoe, from the nose or urethra, &c. In excessive fatness, in old age, &c. And in gout, rheumatism, and other similar painful affections."

Directions for using the Steam Bath.

"In any case of sudden emergence, the bath may be administered by supporting the bed-clothes with a staff or board of suitable length, or with any sort of a temporary frame, taking care to use a sheet or two of paper to defend the bed from being scorched, and to adjust the whole affair so as to secure a free diffusion of the heat over the body of the patient.

"There should be provided in every family where the bath is used, a suitable frame for the purpose. It might be something

* I have been apprised of the curious fact that the "apparatus of Dr. Jennings is exactly described in a German publication two centuries ago." It is by no means to be supposed, however, that the Doctor ever had access to that source of information.

like the following description :—Half a circle or a half-hoop of good strength and twenty-two inches in diameter, will form the end which is to stride across the body of the patient a little below the breast. A half circular plank, eighteen inches in diameter, will make the foot end of the frame. A thin board four feet long should cover the top, and a lath or two of similar length should secure each of its sides. A hole of suitable size should be made in the middle of the foot end for the introduction of the tube.*

"The patient should be stripped of all his clothing except his linen, which after the bath goes into operation, he may draw up to his chin. The frame is to be laid over him in bed, and a sufficient weight of bed-clothes should be used so as to confine the heat properly. A sheet and four or more blankets, or other covering to that amount for the winter season; a blanket less will serve for the summer. The bath is applied at the feet, which is most proper in all ordinary cases, and the gas has a free opportunity to diffuse itself all round the body of the patient, which is always important. The weight of the bed-clothes being properly sustained by the frame, he can turn himself over at pleasure, which will give him the advantage of warming first one side and then the other, as it may be most agreeable to his feelings.

"Complaints should always be met at their first appearance, before the patient is exhausted by disease. In cases of very robust patients it is often safest to take some blood before the bath is applied, especially in the winter and spring seasons of the year. And it sometimes happens in recent painful cases, in which the propriety of blood-letting may be doubtful, that the bath produces partial sweating and temporary ease, but presently the perspiration suddenly dries up, and the pain increases. This circumstance will at once determine the necessity of blood-letting, which in such an instance will be found more effectual after the bath than it would have been if performed prior to its application.

"In some instances also, when the bath is administered to patients inclined to be feverish, when blood-letting has not been premised, and especially when too small a cup has been used, an uncomfortable restlessness is felt. This circumstance, as well as the head-ach, if they continue any length of time after the bath, should be relieved by some agreeable cathartic dose, and blood-letting when necessary.

"In cases where it may be used with great decision, it commonly produces some throbbing of the head. When this appearance is considerable, the process may be discontinued, and if blood-letting is not necessary, the throbbing will quickly subside, leaving no inconvenience to the patient. In delicate cases, however, it ought not to be pushed up to this pitch; the fire should be lighted up and extinguished alternately, as it may be found agreeable to the patient.

---

* This frame is highly important, and in many cases indispensable. In pleurisies and other violent cases, the heat ought to act at once with considerable violence upon the whole surface.

"In cases of feeble and very old persons, the smaller cups ought to be used; and in most instances it ought to be repeated once every sixth hour, sometimes once every third hour. Meanwhile the patient should be supported by nourishment and cordials.*

"Sometimes it may be beneficial to remove the apparatus from the feet to the side of the patient, and so on alternately, as the judgment of the practitioner will quickly discover.

"In cases of long standing debility, it sometimes happens that the bath is scarcely put into operation before the patient feels distressing sickness and faintness. When this happens, let the fire be extinguished, and give a glass of wine and water, and when sufficiently refreshed, re-kindle the bath. In such delicate cases it is frequently necessary to use laudanum as well as the wine and water. Say ten, fifteen, twenty, or thirty drops, to be given at the close of the process.

"In almost every enfeebled case of any standing, it is necessary after the bath, to use jugs or bottles filled with boiling water, or hot bricks, to aid the weak excitement of the surface, that it may retain the advantages gained by the bath; and in some cases blisters should be added.

"When the patient is not much reduced, and seems to be too long coming into a state of perspiration, I always add more heat. If two or more cups cannot stand within the base of the bath, I place it upon them in any way I can, propping it up with bricks, or any other convenient support. The heat of two or three cups will be drawn up by the tube. If the patient complain too much I remove one of the cups for a few seconds, and replace it so soon as the heat a little subsides. By this method my object is more speedily, certainly, and safely accomplished."

WEIGHTS AND MEASURES EMPLOYED IN MEDICINE.

The weights usually employed are those commonly called *Troy weight*. The pound is thus divided.

A pound,	℔j	contains	12 ounces,	℥ xij.
An ounce,	℥j	contains	8 drachms,	ʒ viij.
A drachm,	ʒj	contains	3 scruples,	℈ iij.
A scruple,	℈j	contains	20 grains,	gr. xx.

The wine gallon measure is divided as follows:

A gallon,	congj	contains	8 pints,	O viij.
A pint,	Oj	contains	16 fluid ounces,	f ℥ xvj.
A fluid ounce,	f ℥j	contains	8 fluid drachms,	f ʒ viij.
A fluid drachm,	f ʒj	contains	60 minims,	♏ lx.

* In such a case the intention should be to warm the patient effectually, but not to produce a sweat.

When medicines are directed in the quantities of a table-spoonful, and of a tea-spoonful, it is to be understood that the spoons are of the medium size, the former equalling about half a fluid ounce, and the latter a fluid drachm.

When a dose is measured by drops, the size of the drops is liable to vary according to the form of the mouth of the bottle, and specific gravity of the liquid, &c. But it is in general to be estimated that sixty drops of water, one hundred drops of spirits and tinctures, and one hundred and twenty of alcohol, are equal to a drachm by measure.

OF MEDICAL PRESCRIPTIONS.

Much accuracy and attention ought to be observed in the forming a medical prescription. This point, however, in practice is too often inexcusably disregarded, and not unfrequently the intention of the prescriber is entirely frustrated by an unchemical mixture of substances of opposite virtues. Simplicity, neatness, and elegance, should always be regarded, so far as will comport with the object of the prescription. No unnecessary article should ever enter the composition, and the taste of the patient ought as much as possible to be consulted. The doses of medicines are to be adjusted according to the age, sex, temperament, idiosyncracy, habit, and disease. Women in general require smaller doses of medicine than men; and the sanguine less powerful doses than the phlegmatic and melancholic. There is in some constitutions a peculiar disposition to be affected with certain causes, in a manner different from the generality of mankind. This, which is termed idiosyncracy, requires to be attended to by the prescriber. Habit too has an important influence on the operation of medicines. In general all strong stimulants and narcotics lose some of their power by being long continued. Thus the inebriate, habituated to large quantities of ardent spirits, can bear ten times the quantity of opium, to that of other persons. In a state of disease, the doses of medicine must be regulated according to the greater or less degree of susceptibility to external impressions.

The following table will shew the proportions from infancy to adult age.

Let the dose for a person of middle age be	1 or one drachm.
For one from 14 to 21 years, it will be -	$\frac{2}{3}$ or two scruples.
7 to 14 - - -	$\frac{1}{2}$ or half a drachm.
4 to 7 - - - -	$\frac{1}{3}$ or one scruple.
of 4 years of age - -	$\frac{1}{4}$ or fifteen grains.
3 - - - -	$\frac{1}{6}$ or half a scruple.
2 - - - - -	$\frac{1}{8}$ or eight grains.
1 - - - - -	$\frac{1}{12}$ or five grains.

GENERAL HOSPITAL.

It is with the highest degree of satisfaction that the author can greet the citizens of his native state on the noble acquisition of a hospital establishment in our metropolis. A more glorious monument of private and public munificence, has not been exhibited in modern times.

The Method of obtaining admission into the Hospital is as follows:

Application for admission, in writing, mentioning the place of residence of the patient, must be left at the Hospital. Upon the receipt of this application, the physician or surgeon will visit such patient, if residing in Boston; and if the patient is free from a contagious disorder, and is a fit subject for the Hospital, a certificate of admission will be granted. If such patient does not reside in Boston, the application must be accompanied with a certificate from a respectable physician, stating that the patient is free from contagious disorder, &c. The application of the patient and the certificate of the physician will be laid before the visiting committee, at their stated meeting on Thursday. They will then fix the rate of board, which in the present state of the funds cannot be less than three dollars a week; but such rate shall always be as low as the funds will permit; and the committee will also prescribe what security shall be given for the payment of the same. The sum fixed, will include medicines, medical attendance, nursing, food, and every other expence.

In case of accidents in the streets, or elsewhere, or of sudden disease, the Hospital will be open for the receiving of patients, without delay, both day and night, and no written application will be required. A Trustee, or the Physician, or Surgeon, may, at any time, dispense with the written application, and cause any patient to be admitted by an order. The Hospital is also open to strangers, and persons from all parts of the Commonwealth, who will receive all possible attention, at a rate of board as low as the funds will permit.

SOPHORA TINCTORIA, (Lin.) WILD INDIGO, INDIGO WEED.

This plant is perennial, growing in great abundance in almost every barren pasture, and in woods. The stem rises to two feet or more, is smooth, sending off numerous branches. The leaves are in threes, on short petioles inversely heart shaped, and sessile. In July and August all its branches display butterfly shaped golden coloured blossoms, which render this plant very conspicuous. The seed vessels are inflated, containing numerous seeds. The root is ligneous, rough and irregular in shape, and sending off ma-

ny slender branches. Its taste is unpleasant, sub-acrid, and nauseous. The particular medical properties of this plant are yet to be ascertained. Internally, in a large dose, it operates as an emetic and cathartic; but a weak decoction of the root acts only as a mild laxative, but it is not much to be recommended for these intentions. My own experience of this plant for several years, has been confined to its qualities, as an external application to vitiated ulcers, of almost every description, and it has in many instances surpassed in efficacy any other remedy which I have ever employed. By my request, several practitioners of reputation and experience, have been induced to adopt the use of this article, in whose hands it has not disappointed the most sanguine expectations. In aphthous, and other ulcers of the mouth, sore nipples, in various painful ulcers, discharging acrid matter, the assuaging and healing qualities of an infusion of this root, by way of lotion, has been most strikingly manifested in practice. Reports have been made to me of its peculiarly pleasing effects when applied to obstinate syphilitic ulcers, mercurial sore mouth, and ulcers of a putrid and gangrenous tendency. It is undoubtedly, in some sense, an antiseptic. We are particularly indebted to William Tully, M. D. President and Professor of Vermont Academy of Medicine, for his experimental trials of the wild indigo root. His observations fully corroborate the foregoing remarks; and, moreover, that when administered internally, it acts upon the absorbent and the nervous system, often increasing the secretions from all the glandular viscera, but more particularly from the liver, and is especially adapted to the atonic varieties of acute and sub-acute rheumatism, and the atonic variety of pneumonia. Its external application, he adds, is useful to vitiated, irritable, and painful ulcers, generally, as it is capable of correcting and restraining their foul discharges, and obviating their irritability and pain. It is capable of arresting or retarding the progress towards a gangrene, in many cases of erythematic or erysipelatous inflammations, and is of use in aphthæ, ulcuscula oris, mercurial sore mouth, ulcerations of the tonsils and fauces, burns and scalds, and chronic inflammations of the eyes, &c.

For farther particulars relative to this article, the reader is referred to the American new Dispensatory, 4th edition.

CEPHALANTHUS OCCIDENTALIS. BUTTON BUSH.

"Button bush, or river bush, is a frequent ornament of the water side, its insulated thickets furnishing a safe retreat for the nests of the black-bird. The shrub rises five or six feet out of the water, its leaves are tough, spreading, pointed and entire. In the month of July it puts forth its spherical heads of flowers, which at a distance appear not unlike the balls of the plane tree. Receptacle globules, of the size of a large pea, covered with whitish

funnel shaped flowers. The long projecting stamens give to the whole a bristly aspect." (Bigelow.)

This shrub has been found to posssess very considerable diuretic powers. It is frequently resorted to by those who are in the habit of prescribing without the advice of a physician, and by whom it is held in great estimation in cases of ischuria, dysuria, or strangury. The leaves, flowers, and twigs, gathered in the flowering season, are infused in boiling water, and taken to any quantity. It seldom fails in a few hours of giving relief so much desired in complaints of the urinary passages generally, and of promoting a free discharge of urine, even in some cases where the use of the catheter would seem to be the only remedy.

COLCHICUM AUTUMNALE. MEADOW SAFFRON.

This plant has not been discovered as a native of the United States. From the root the Eau medicinal is prepared as follows. Take two ounces of the root of *colchicum*, cut it into slices, macerate in four fluid ounces of Spanish white wine, and filter. The root should be taken up from the beginning of June to the middle of August. The virtues of the bulb of the root must be extracted as soon as gathered, as the bulb will continue to grow although out of the earth. The dose of the saturated vinous infusion, the only form in which its successful operation can be insured, is from half to one drachm, whenever the patient is in pain. A vinous tincture of the seeds may be employed, but the seeds need not be bruised when made into tincture. The medicine is found to be almost infallible in the cure of paroxysms of gout, and is of great use in rheumatic affections.

ARACHNE. COBWEB.

This extraordinary article has been taken from empirical hands, and sanctioned by medical authority as a remedy in diseases. It has been said, however, that the web woven by a particular species of spider is to be selected as the most efficacious, but we are unacquainted with the means of designating the genuine species. The web commonly to be met with has been employed, and with complete success, in various hands, in the cure of intermittent fevers. Dr. Robert Jackson, a distinguished English physician, in detailing his successful experiments with the spider's web, in the cure of intermittents, goes on to say, that he can attest by living evidence, that cobweb diminishes morbid irritability, and calms irritations, both of body and mind, in a *degree far exceeding any drug or medicine within his knowledge.* Other practitioners, induced by the evidence afforded of the virtues of this substance,

have given it a trial, and are satisfied of its palliative and anodyne properties, producing the most delicious tranquillity, resembling the effects of opium, and followed with no bad effect. Although few will be willing to swallow the disgusting animal itself, the delicate fabric which it forms may be received by the most squeamish stomach when enveloped in a mucilage of gum arabic. About three or four grains of the web is given every few hours until the ague fits are subdued, and with the view of appeasing nervous irritations and mental inquietude, it may be taken in the form of pills of two grains, until relief is obtained. It were to be wished that cobweb may have a trial in delirium tremens. A more extensive experience will, we hope, develop the peculiar properties of this singular remedy.

SULPHATE OF QUININE.

This is a preparation from the Peruvian bark with sulphuric acid. Two pounds of bark it is said will yield from five to six drachms of the sulphate, of which eight grains are considered equivalent to an ounce of bark; of course one grain will be a large dose. It is given with satisfactory success in intermittents, and generally in those cases where cinchona has proved efficacious, and as a febrifuge it has gained a high reputation.

℞ Sulphate of Quinine, one scruple,
Lemon Syrup, one ounce,
Distilled water, three ounces,
Diluted Sulphuric Acid, fifteen drops. M.

Rub the sulphate with the syrup and the acid, and then add the water. Dose, a tea-spoonful three or four times in a day.

SANGUINARIA CANADENSIS. BLOOD ROOT.

This indigenous plant is common in the United States, and its valuable properties as a substitute for digitalis in coughs and pulmonic affections, are pretty generally known, but its active powers as an external application are not so well understood. It is one of the best escharotics when in fine powder it is sprinkled over ulcers, especially those ulcers of the leg peculiar to old people that have baffled the skill of many surgeons, the daily application of blood-root has been employed with wonderful cures. The ichorous discharge generally soon exhibits a healthier appearance, and granulations rapidly close the ulcer. In those obstinate and troublesome ulcers of the mamma which so frequently occur, by the continued use of the blood-root the spongy appearance and fiery redness soon disappear, and a speedy recovery generally takes place. Blood-root, when strongly infused in vinegar, cures

the itch, herpes, and other cutaneous affections, if properly applied to the parts. The following preparation has proved a valuable auxiliary remedy in coughs and pulmonic affections attending the influenza.

℞ Blood-root, bruised,
Lycopus Europæi, a a, three ounces,
Distilled Water, six pints.

Boil to three pints, strain and add of loaf sugar three pounds, to make a syrup, which, before it is quite cold, flavour with essence of checkerberry, q. s. Dose, a table-spoonful for adults, three or four times a day.

PHYTOLACCA DECANDRA. COAKUM, POKE-WOOD.

It grows in waste grounds, and by sides of roads, having branching purple stems, five or six feet high. The leaves are large, flowers in long simple racemes of a dull white, succeeded by large flat berries, affording a juice which gives a purple dye. All the parts of this plant are endowed with medicinal virtues.

An extract may be made by boiling down the root in the same manner as other extracts. When the leaves are to be employed, they should be gathered in July, when the foot stalks begin to assume a reddish colour, dried in the shade, and powdered for use. A tincture may be made by dissolving the extract, or macerating the root or leaves in proof spirits. From eight to ten grains of the dried root or the leaves, or a table-spoonful of the saturated tincture, may be considered as a proper dose; an over dose will operate as an emetic and cathartic. The cases in which this article has been found of great utility, are rheumatism, but more especially in those rheumatic affections which sometimes occur to syphilitic patients, in which it far exceeds the use of opium or guaiacum, as it possesses a degree of narcotic power. The leaves or root infused in water, has proved an admirable remedy in piles. It is given freely internally for this purpose, and if it do not give speedy relief, it is to be injected into the rectum. Externally applied, it cures scabies and herpes, and it has the effect of a mild vegetable caustic, cleansing and healing foul ulcers better than most other remedies of that class. It should be tried in syphilitic ulcers, as a substitute for the nitrate of silver.

LYCOPUS EUROPÆUS, WATER HOREHOUND; OR LYCOPUS VIRGINICUS, BUGLE WEED.

This grows spontaneously about creeks and low lands, rising from eighteen inches to four or five feet; the stalk is square, grooved, giving off branches, leaves opposite and alternate upon

different sides, thin, narrow, the lower ones deeply, the upper ones more slightly toothed. Flowers in whorls, small, white, in August and September. This plant has been brought into notice recently, by some persons who have experienced in themselves and others the greatest benefit in the cure of hæmoptysis and other similar complaints. It has attracted the attention of practitioners, and is found deserving of further trials as an auxiliary in coughs and many pulmonic affections.

CARBO LIGNI. CHARCOAL OF WOOD.

It is important that this article be properly prepared for medicinal use. The most eligible process for preparing charcoal free from all impurities and disagreeable taste, is to enclose small billets of wood (oak, walnut or maple are best) in an iron cylinder having a tube fixed to one end, and distil them until no more smoke or water escape from the tube. Then put out the fire, and close the mouth with clay until the cylinder cool. The barrels of old guns may serve for this purpose; or the pieces of wood may be put into a pot not closely covered, and surrounded with live coals, until all smoke from the pot shall cease. Then remove the coals, and closely lute the cover with clay until the pot cool. Any common well-burnt charcoal, if pulverized and heated in a covered crucible to a glowing red, till it cease to give out any inflammable vapour, will answer the purpose. But by whatever process it be prepared, charcoal should be immediately secured in well stopped glass bottles, and in that way it may be preserved unimpaired for any length of time. Charcoal is of great use in various diseases, in doses of from twenty to thirty grains. It cures intermittents, and is useful in dyspepsia, habitual costiveness, fœtid breath, and is a good tooth powder. Externally applied, it arrests the progress of mortification, corrects the fœtor of vitiated ulcers, and promotes the healing process, and will cure tinea capitis.

WATER OF ACETITE OF AMMONIA, SATURATED WITH CARBONIC ACID GAS.

℞ Take one ounce of pure sal ammoniac (carbonate of ammonia), and one pint and a half of distilled vinegar; put the latter in a decanter, provided with a close glass stopper, then introduce the salt previously broken into lumps, but not too small, as by plunging it too suddenly into the liquor the extrication of the gas would be too quick, and a quantity of it dissipated. Next the stopper of the bottle should be tied over with a bit of leather, and the whole be left undisturbed. It would be further useful, to add on the top

of the bottle some weight or pressure, by which means the combination of the gas with the water will be greatly facilitated. After having stood a few hours, the ammonia will be dissolved, and the gas will be absorbed by the liquor. By this simple process the water of acetite of ammonia becomes strongly impregnated with fixed air, while it is almost entirely deprived of that disagreeable taste which is peculiar to this medicine when prepared in the usual way. This preparation possesses superior advantages as a febrifuge, and it generally agrees with weak and irritable stomachs which can retain scarcely any other medicine.

Tincture of Guaiacum Volatile, by Dr. Dewees.

℞ Powdered Gum Guaiacum, three ounces,
Carbonate of Soda, or Potass, three drachms,
Pimento powdered, two ounces,
Diluted Alcohol, two pounds. Digest.

The volatile spirit of sal ammoniac to be added pro re nata, in the proportion of a drachm to every four ounces of the tincture. If to one ounce of the above tincture be added one ounce of the tincture of blood-root, and two drachms of the tincture of bark Hux. we have an excellent preparation for dyspepsia. Two teaspoonfuls of this compound half an hour before eating, or two or three times in a day, will effectually prevent the food from oppressing the stomach.

Essence for Head-ach.

℞ Alcohol, four ounces,
Gum Camphor, two ounces,
Spirit Sal Ammoniac, or æther, two ounces.
Mix thoroughly, and apply with the hand.

Emulsion for Catarrh and Cough.

℞ Oil of Sweet Almonds, one ounce,
Barley Water, six ounces,
Best White Sugar and Gum Arabic powdered, of each half an ounce,
Liquid Laudanum, forty drops.

Incorporate the sugar and gum arabic together in a mortar with a small quantity of the barley water, then gradually mix the oil, and afterwards add, by little at a time, the remainder of the water with the laudanum. A cupful of this emulsion may be taken frequently.

Pectoral Decoction for Colds.

℞ Linseed, four ounces,
Liquorice root, one ounce,
Raisins or figs, four ounces.

Simmer them moderately in two quarts of water till reduced to one, then add a quarter of a pound of sugar-candy, powdered, a table-spoonful of old spirit, and the same quantity of vinegar or lemon juice.

Drink half a pint at going to bed, and a cupful whenever the cough is troublesome.

Efficacious Mixture for Cough in Hectic.

℞ Balsam Copaiva, half an ounce,
Compound Spirits of Lavender, and Sweet Spirit of Nitre, each one drachm,
Laudanum, one drachm,
Gum Arabic, two ounces,
Distilled Water, four ounces. M.

Dose, a table-spoonful morning, noon and night.

Cough Mixture.

℞ Paragoric elixir, one ounce,
Powdered gum arabic, one ounce,
Simple water, two ounces,
Sweet spirit of nitre, two drachms,
Antimonial wine, one drachm.

Mix and dissolve.

One table spoonful to be taken whenever the cough is troublesome. But in the first stage of catarrh, when inflammatory symptoms are present, this and all opiates are improper.

Receipt for a Cough.

℞ Gum ammoniac, two drachms,
Syrup of squills, half an ounce,
Liquid laudanum, fifty drops,
Pure water, six ounces.

Reduce the gum to powder in a marble mortar and gradually add the water, and triturate till the gum is dissolved, then strain from the impurities and add the other articles. Dose, a table-spoonful three or four times a day.

Another.

℞ Elixir paragoric, one ounce and a half,
Wine of antimony, one ounce,

Syrup of Squills, one ounce,
Lac ammoniac, four ounces,
Syrup bal. tolu, one ounce.

Dose, half a table-spoonful every two or three hours.

The following is highly esteemed by those who have experienced the use of it.

℞ Tincture of opium, one drachm,
Wine of Ipecacuanha, half a drachm,
Oxymel of squills, half an ounce. M.

Dose, seventy drops every two hours while the cough is severe.

Cough mixture.

℞ Bal. traumat, two ounces,
Liquid laudanum, one ounce,
Syrup bal. tolu. two ounces.

Dose, tea-spoonful three or four times in a day.

Pills for Coughs.

℞ Calomel, twenty-four grains,
Squills powdered, half a drachm,
Tartarized antimony, six grains,
Gum opium, eighteen grains. M. f. pills No. 24.

Dose, one every night.

Domestic Remedies for Hooping Cough.

Dissolve thirty grains of salt of tartar or sal æratus in a gill of water, add to it ten grains of cochineal finely powdered, sweeten this with fine sugar, and give an infant a tea-spoonful four times a day. To a child of two or three years old, two tea-spoonfuls, from four years and upwards, a table-spoonful or more may be taken. The relief is said to be immediate, and the cure in general within five or six days.

Another.

Take equal portions of new milk and the ley strained from hickory ashes, of which one table-spoonful may be given every hour through the day to a child of seven or eight years old.

This remedy is strongly recommended in the National Register, a very respectable newspaper, in which it is stated that the good effects of this remedy have been witnessed in upwards of fifty cases.

Febrifuge Mixture.

℞ Glauber's salts, one ounce and a half,
Lemon juice, one ounce,

Boiling water, half a pint,
Loaf sugar, two ounces.

Mix and dissolve.

When cold, add sweet spirit of nitre, two drachms.

Dose for an adult, two table-spoonfuls every hour until it produce a cathartic effect, afterwards in small doses as an alterative. Or,

℞ Sal nitre, half an ounce,
Simple water, half a pint,
Lemon juice, half an ounce.

Mix and dissolve.

Let it be kept in a corked bottle, and give a table-spoonful every hour during the continuance of fever.

Febrifuge Powder.

℞ Sal nitre, one drachm,
Tartarized antimony, three grains,
Gum opium, six grains,
Calomel, ten grains.

Mix and divide into ten doses.—To be administered one every third hour.

Solution of Tartarized Antimony.

Let six grains of emetic tartar be dissolved in eight ounces of water; distilled water is preferable. If to promote vomiting, give two table-spoonfuls every fifteen or twenty minutes. If to excite a diaphoresis in fevers, one table-spoonful is to be given every six hours. Dr. G. Fordyce asserts that he has seen in less than five hours after the exhibition of this medicine, the symptoms of a crisis, and the fever has ceased in less than twelve hours; in a large proportion of cases it will succeed if exhibited within the first three or four days of continued fever. The same author observes, that if tartarized antimony be dissolved in a large quantity of water, it will be decomposed in case the solution be suffered to stand with a surface exposed to the atmospheric air, as in an open vessel. It is therefore much better dissolved in wine in the proportion of a quarter of a grain to half a drachm of wine. But in every instance care should be taken that the antimonial powder be fairly dissolved, and not permitted to subside to the bottom, and be unequally distributed. This preparation is much employed by respectable physicians for the purpose of increasing the gastric secretions, and maintaining for a length of time a soluble state of the bowels.

Yeast for Medicinal Use.

Thicken two quarts of water with about three or four spoonfuls of rye meal or fine flour; boil for half an hour, sweeten with half a pound of brown sugar; when near cold, put into it four spoonfuls of fresh yeast, shake it well together in a jug, and let it stand one

day to ferment near the fire without being covered. Pour off the thin liquor on the top, and cork up the remainder for use. Or,

Boil one pound of clean washed potatoes to a mash, when half cold add a cup full of yeast, and mix it well. It will be ready for use in two or three hours.

Another Method.

Take one pint of yeast, and add half a pint of molasses and one quart of luke warm water. Stir these well together, and let it stand in a moderately warm place till active fermentation becomes evident; then it may be kept in a cool place for the patient's use. In warm weather it should be prepared fresh every day.

Yeast has acquired considerable celebrity for its virtues in the cure of putrid fever and malignant ulcerous sore throat. It is to be exhibited in doses of two spoonfuls every two or three hours; should it purge or gripe, the dose must be diminished.

Cathartic Pills.

℞ Calomel, three drachms,
Jalap in powder, three drachms,
G. gamboge, one drachm and a half,
Squills, forty grains. M.

Mucilage of gum arabic, q. s. f. pil. No. 160.—Two or three pills for a dose.

℞ Gum aloes, G. gamboge, sal nitre, equal parts. M.
Mucilage of gum arabic, q. s. f. pil.—To contain five grains each.—Two or three for a dose.

Pills Fœtida with Opium.

℞ Gum asafœtida, three ounces,
Aloes suc., one ounce,
Opium, one drachm,
Soap, half an ounce. M.
Common syrup, q. s. f. pil. No. 480.

In nervous cases attended with flatulency, three or four pills taken at night will produce excellent effects.

Pills of Digitalis for Cough.

℞ Digitalis, in powder, eighteen grains,
Opium, in powder, six grains. M for 24 pills.

Take one pill 3 or 4 times daily.

Cough Pills.

℞ Ipecac, in powder, and squills in powder, each 8 grains,
Opium and conserve of roses, each 10 grains. M for 20 pills.

Take one every night and morning.

Chalybeated Myrrh Pills.

℞ Myrrh powdered, two drachms,
Carbonate of soda, sulphate of iron and sugar, each one drachm.

Rub the myrrh with the carbonate of soda, add the sulphate of iron, and rub them again, then beat the whole together until they are thoroughly incorporated.

These pills are intended as a substitute for Griffith's myrrh and steel mixture, as it may occasionally be convenient to prescribe it under the form of pill, or to form the mixture from it extemporaneously by diffusion in water. Two pills of about five grains each may be given morning and evening.

Saturnine Anodyne Pills.

℞ Acetite of lead, Ipecacuanha in powder, of each one drachm,
Opium, ten grains.

Beat them with simple syrup into a mass to be divided into 40 equal pills.

In cases of uterine hæmorrhage, fluor albus, &c. attended by debility and pain, these pills taken one every three or four hours, seldom fail to produce the desired astringent effect; and if their use be duly persisted in, will often induce that salutary change in the system upon which a radical cure depends.

Plummer's Pills.

℞ Calomel, sulph. aurat. antimony, of each two drachms,
Gum guaiacum powdered, four drachms,
Hard soap, two drachms.

Let the calomel and sulphur be thoroughly triturated together, then add the powder, and beat the whole into a mass with jelly of soap. This formula differs from the original one of Dr. Plummer, in omitting the extract of gentian, and adding the guaiacum. These pills for many years sustained a high reputation, and may still be considered as a very efficacious remedy in venereal and in various cutaneous affections. The proper dose is from four to eight or ten grains morning and night, observing the same rules as when under a course of any mercurial preparation.

Compound Aloetic Pills.

℞ Castile soap, aloes, powdered rhubarb, equal parts,
Mucilage of gum arabic, or simple syrup, q. s. f. pills.

Two or three of these pills of five grains each, prove mildly laxative, and are a good substitute for Dr. Anderson's pills.

Calomel Pills.

℞ Sub muriate of mercury, (calomel,) half an ounce,
Starch powdered, one ounce,
Mucilage of gum arabic, q. s. f. mass, divide into two hundred and forty pills.

The compound calomel pills are formed by adding eighty grains of opium to the foregoing mass. These pills are well adapted to most cases where a mercurial course is proper. The dose and frequency of administration is to be regulated according to circumstances.

Absorbent Laxative Mixture.

℞ Magnesia alba, two drachms,
Rhubarb in powder, half a drachm,
Oil of aniseed, twenty drops,
Loaf sugar, one drachm,
Simple cinnamon water, one ounce,
Pure water, four ounces. M.

First mix the magnesia and rhubarb in a mortar, then add the oil and sugar, and lastly add gradually the water. One or two tea-spoonfuls of this mixture is given with much advantage to children whose stomach and bowels abound in acidity, which occasions griping and colicy pain. On some occasions it may be useful to add a few grains of alkaline salt, or a few drops of aqua ammonia.

Gargle for Canker.

℞ Red rose leaves, a small handful, a piece of myrrh the size of a large hazle nut, three or four figs. Simmer the whole in a pint of old cider, the older the better, then strain and sweeten it with pure honey; gargle the throat and wash the mouth with a little mop wet with the liquor.

Remedy for Angina Maligna, or Putrid Sore Throat.

℞ Cayenne pepper, two table-spoonfuls,
Common salt, two tea-spoonfuls.

Infuse in half a pint of boiling water, and add thereto the same quantity of warm vinegar. After standing for an hour, the liquor must be strained through a fine cloth, and two table-spoonfuls given internally every half hour. The most speedy and good effects were produced by this medicine in almost all the numerous cases of putrid sore throat in which it was tried in the West Indies, where it was first introduced. (Thomas' Modern Practice.)

Styptic Tincture.

℞ Sacchar. saturni, one ounce,
Sal martis, half an ounce,
Alcohol, eight ounces. M.

Infuse for two days, and strain through paper.

Dose for adults, twenty drops three or four times in a day, as a remedy in profuse hæmorrhages. Or,

℞ Sulphate of copper (blue vitriol,) three grains,
Sulphuric acid, twenty drops,
Pure water, two ounces. M.

This efficacious remedy for uterine hæmorrhage, is to be given in doses of from fifteen to forty drops in water, repeated every hour, or once in six hours, according to the urgency of the case.

Anti-Dysenteric Mixture.

℞ Lemon juice or best vinegar, two ounces,
Common salt, as much as the acid will dissolve,
Strong mint tea, half a pint,
White sugar, sufficient to sweeten it.

Dose, a table spoonful in two spoonfuls of hot water every two or three hours in cases of malignant dysentery, in which it has been found very efficacious.

Collyria, or Eye-waters.

℞ Acetite of lead, five grains,
Sulphate of zinc, three grains,
Liquid Laudanum, one drachm,
Pure soft water, four ounces. M.

This will be found extremely useful in ophthalmia, after the active symptoms of inflammation have subsided. A rag wet with the fluid should be applied over the eye-lids, and occasionally they should be opened so as to admit it into contact with the ball of the eye.

℞ Water of acetite of ammonia (spirit of mindererus,)
Pure water, of each four ounces.

Mix and strain.

To the above may occasionally be added tincture of opium, one drachm.

℞ Acetite of lead, one scruple,
Water eight ounces,
Tincture of opium, one drachm. M.

℞ Sulphate of zinc (white vitriol,) twelve grains,
Acetite of lead, sixteen grains,
Water, eight ounces. M.

Tar Water.

℞ Tar, half a pint,
Water one quart.

Stir them together with a wooden stick for a quarter of an hour, and after the tar has subsided, strain the liquor and keep it in well corked phials.

In obstinate ophthalmia, Dr. Physic employed tar water with complete success after the usual remedies had proved ineffectual. This may be made weaker by the addition of water, if too strong. Tar water is also an excellent remedy in dyspepsia, it is found to strengthen the tone of the stomach, to excite appetite, promote digestion, and the excretions of urine. Dose, a wine glass full three or four times in a day.

Alum Curd.

℞ Alum, half a drachm.

Agitate it well together with the white of an egg until a coagulum be formed.

This has been found greatly beneficial when applied to inflamed eyes, to allay heat and restrain the flux of humours. It should be spread upon linen, and not be kept on above three or four hours at a time.

The following astringent eye water is said to prove peculiarly useful in obstinate inflammation of the eye-lids from debility of the parts. Take the whites of six eggs after being boiled quite hard, cut them into small pieces, and while warm sprinkle over them half an ounce of white vitriol, in powder; keep this for twenty-four hours in a moderately warm place, and when the vitriol is dissolved, strain the liquor through a fine cloth for use. Let this liquor be diluted with soft water to such strength as the eye can bear without much sensation of pain, and apply it at night, avoiding exposure to the cold air the next morning.

Cold Cream.

℞ Oil of sweet almonds, two ounces,
Spermaceti, half an ounce,
White wax, half an ounce. M.

Put them into a close vessel, which put into a skillet of boiling water; when melted, beat them up with rose water until the whole becomes cold. This forms an elegant ointment, and is a useful application to sore nipples and other excoriated parts.

Compound Powder of Ipecacuanha. Dover's Powder.

℞ Ipecacuanha powdered, opium, of each one drachm,
Sulphate of potash, one ounce. M.

Triturate them thoroughly together.

This powder is the most efficacious sudorific we possess in doses of fifteen or twenty grains frequently repeated. Sal nitre may be substituted for the sulphate of potash when that is not at hand.

Alkaline Solution and Neutral Mixture.

℞ Carbonate of potash (salt of tartar,) half an ounce,
Water, six ounces.
Mix and dissolve.

The neutral mixture may be formed by adding gradually to the foregoing an equal quantity of the vegetable acid, or in such proportions as to neutralize the mixture.

Dock-root Ointment.

℞ Blunt leaved dock root, three ounces,
Distilled water, one pint,
Boil to half a pint, strain, and add of lard, one pound,
Simmer until the water is dissipated.

This is employed as a useful remedy in herpes and other cutaneous affections.

Ointment for the Itch.

℞ Hog's lard, two pounds,
Flowers of sulphur, one pound,
Sal ammoniac, crude, in fine powder, one ounce,
Root of white hellebore, in fine powder, one ounce,
Essence of lemons, one drachm. M.

A more elegant and efficacious Ointment for the Itch.

℞ Red precipitate in powder, one ounce,
Burgundy pitch, one ounce,
Oil of turpentine, one and a half ounce,
Hog's lard, eight ounces.
Melt, and mix them thoroughly together.

Another Remedy.

Corrosive sublimate, one drachm, dissolved in half a pint of water, and add crude sal ammoniac, two drachms, sal nitre, half an ounce. The hands are to be washed with this solution night and morning, and a little of it is to be applied with a clean sponge to the pustules in other parts.

Spirits of turpentine, properly mixed with hog's lard, will also prove an effectual cure for the Itch.

Wash for Gutta Rosea, or Pimpled Face.

℞ Rose water, six ounces,
Flowers of Sulphur, half an ounce,
Acetite of lead, one grain. M.

Shake it well, dip a soft rag in it, and wet the affected part of the face night and morning. Let it remain on the face as long as convenient.

Beef Tea.

Cut one pound of lean beef into thin slices or shreds, and boil it in a quart of water for twenty minutes, taking off the scum as it rises. After it grows cold, the liquor should be strained, in which state it resembles a light infusion of green tea, has a very grateful flavour, and is more strengthening than other broths.

Another.

Cut a pound of beef, first deprived of its fat, into small pieces so as to be put into a quart bottle. The bottle well corked, without the addition of water, should be put into a small pot of cold water, which should be boiled for three or four hours. The liquor should then be poured out of the bottle and made savory with a little salt and any agreeable spice. *Rush.*

Instead of boiling the meat, Dr. Mease advises to reduce it to a pulp with a wooden pestle in a mortar, and then to express all its juice. After straining this liquor, a little spice may be added, and an equal or larger proportion of boiling water. Thus the whole essence of the meat will be preserved, part of which would be volatilized by cooking. Half a pound of beef in this way is nearly equal to one pound used according to the former method.

But on mature deliberation it appears to be a common error that any liquid substance whatever is more easily digested, or better suited to weak and impaired stomachs than animal food in its solid form.

Wine Whey.

Pour equal parts of white (Lisbon) wine, and skimmed milk into a bason; and after they have stood for a few minutes, add a double portion of boiling water. In a short time the curd will collect and subside at the bottom; the whey is now to be strained and sweetened with sugar: a sprig of balm or slice of lemon will greatly improve its flavour. *Dr. Mease.*

To render the preparation of this excellent article of diet and medicine more prompt and easy, says the late Dr. Rush, a single runnet or dried calf's stomach should be cut into small pieces and infused in a quart of sound old Madeira wine. One or two tablespoonfuls of this wine will turn two quarts of milk without exposing

it to the action of fire. This tincture will retain its virtues for years.

Mustard Whey.

Boil one ounce and a half of mustard in powder in a pint of milk, and an equal portion of water, till the curd be entirely separated, after which the liquid is strained through a cloth. (*Dr. Mease.*)

This preparation is one of the most pleasant and efficacious forms in which mustard can be given. A tea-cupful, sweetened with sugar, taken three or four times in a day, is exceedingly beneficial in low fevers as a cordial diaphoretic.

Vinegar and lemon whey may be formed in the same manner as wine whey.

Alum Whey.

Boil two drachms of powdered alum in a pint of milk till it is curdled: then strain out the whey.

This astringent preparation is often employed with advantage in uterine hæmorrhage and in diabetes. The dose is two or three ounces, or as much as the stomach will bear, several times in the day.

Various cooling and pleasant drinks, useful in fevers, may be prepared as follows:

Barley Water.

Take a handful of either pearl barley or the common sort, wash it clean, first in cold and afterwards in boiling water, then simmer it in a quart of water for an hour; when half done, put into it a bit of fresh lemon peel and a litle sugar. Or any vegetable acid may be added to render it agreeable.

Lemons or apples cut in slices, tamarinds, currants, fresh or in jelly, cranberries, dried whortleberries infused in boiling water and sweetened with sugar or syrup, these may be so prepared and varied in form as to suit every taste, and to answer the purpose of pleasant, cooling, and salutary drinks, in all febrile complaints. Such drinks should always be kept in a covered vessel.

Toast and Water.

Toast slowly a thin piece of white bread till extremely brown and hard, but not the least black, then plunge it into a jug of cold water, and cover it over, an hour before wanted for use.

Arrow-root Jelly.

Be careful to procure that which is genuine, for it is often counterfeited. Mix a large spoonful of the powder with a tea-cup of

cold water by degrees, then pour this into a pint of boiling water, stirring it well, and when it boils it is finished. A little sugar and nutmeg may be added. In this manner a sick person may be supplied with a fine supporting meal in a few minutes.

Sago.

First wash it well in cold water, then boil it slowly in water or milk until it swells to a proper thickness. If boiled in water, it will require a little sugar, spice, and wine, or a bit of lemon peel to give it a pleasant taste and flavour.

Boiled Flour.

Take a pound or two of fine flour, tie it up as tight as possible in a linen rag, dip it repeatedly in cold water, and dredge the outside with flour till a crust is formed around it, which will prevent the water soaking into it while boiling. It is then to be boiled till it becomes a hard dry mass.

Two or three table-spoonfuls of this may be grated down and boiled in milk and water to a proper thickness, and sweetened to the patient's taste, and a little nutmeg or other spice may be added.

This forms an excellent food in dysentery and in bowel complaints of children.

Lime Water.

Pour one gallon of water gradually on half a pound of quick lime in a glazed earthen vessel, stir them well together, and after the lime has settled, strain the water through paper, or pour it off quite clear, which should be immediately put into bottles, closely corked. It is not material whether the water poured upon the lime be cold or hot, but the air must be kept from it as much as possible during the process. Lime water is directed in gravelly complaints, and in affections of the stomach from acidity. It is also employed externally as a lotion to foul ulcers.

Goulard's Extract of Lead.

℞ Litharge, one pound,
Vinegar made of French wine, two pints.

Put them together into a glazed earthen pipkin, and let them boil, or rather simmer, for an hour or an hour and a quarter, taking care to stir them all the while with a wooden spatula. After the whole has stood to settle, pour off the liquor which is upon the top into bottles for use.

With this extract Goulard makes his *vegeto-mineral water*, which he highly extols in various external disorders, such as inflammations, burns, bruises, ulcers, &c. It is made by putting two tea-spoonfuls, or one hundred drops, of the extract to a quart of

water, and four tea-spoonfuls of brandy. The proportion of the ingredients may be varied to suit the particular case. When used as eye-water it should be made of such strength as not to excite severe pain. This preparation is strongly recommended in all cases where saturnine applications in general are indicated.

Use of Iodine in Wen, Bronchocele, Palsy, Scrofula, St. Vitus's Dance, Lachrymal Fistula, Ophthalmy, Deafness. Difficulty of Swallowing, White Swelling, Spinal Caries, and Curvature.

A drachm of iodine is dissolved in two and a half ounces of rectified spirit, of the spec. grav. .916—dose from five to forty drops, three times daily. An ounce taken by mistake produced no effect but immediate vomition. The remedy is also used locally.—See Manson on Iodine, and Americ. Med. Rev. and Journ., II., 288—also, N. E. Journ. of Med. and Surg., XV., 33.

Blistering Plaster.

℞ Venice turpentine, six ounces,
Yellow wax, two ounces,
Spanish or American flies in fine powder, three ounces,
Powdered mustard, one ounce.

Melt the wax, and while it is warm add to it the turpentine, taking care not to evaporate it by too much heat. After the turpentine and wax are sufficiently incorporated, sprinkle in the powders, continually stirring the mass until it be cold. If the Venice turpentine is not easily procured, the common white turpentine, softened with a little tar, may be substituted. This form is preferable to those made of oil or lard, which tend to retard the stimulating effect of the flies.

Ointment for Chronic Sore-Eyes, and Cutaneous Eruptions.

℞ Litharge and Lapis calaminarus, each 45 grains,
Red precipitate, 25 grains.

Reduce them to an impalpable powder, and, with one ounce of hog's lard, make an ointment to be applied to the eyes.

Discutient Plaster.

℞ Common litharge plaster, one ounce,
Hard soap, four drachms,
Sal ammoniac, crude, in fine powder, two drachms.

Melt the plaster and soap together, and when nearly cold add the sal ammoniac.

This is an excellent discutient application in cases of indurated tumours either of the female breasts or other parts.

Plaster for Lumbago, or Sciatica.

℞ Camphor, two drachms.
Dissolve it in an equal quantity of spirits of turpentine, and add
of Yellow basilicon, one ounce,
Common black soap, half an ounce,
Carbonate of ammonia, (volatile sal ammoniac,) half a drachm.
Spread this on leather and apply it to the pained part.

For the Scald Head.

℞ Calomel, two drachms,
Burnt alum, one ounce,
Ceruse, one ounce,
Venice Turpentine, six drachms,
Spermaceti cerate, one ounce and a half.
Mix and make into an ointment.

For Ringworms, &c.

Dissolve from 6 to 10 grains of nitrate of quicksilver in one ounce of distilled water.

For Corns.

Apply a plaster of the extract of Phytolacca Decandra, after cutting off the hard surface of the corn, and it will seldom fail.

Dr. Fowler's Arsenical Solution.

℞ White arsenic in powder and salt of tartar, or other vegetable alkali, each sixty-four grains; boil them gently in a Florentine flask with half a pound of distilled water, until the arsenic is dissolved. To this solution, when cold, add half an ounce of the compound spirit of lavender, and as much water as will make the whole equal to a pint, or fifteen ounces and a half in weight. The dose of this solution is as follows: from two years old to four, two drops, or three to five; from five to seven, five to seven drops; from eight to twelve, seven to ten drops; from thirteen to eighteen, ten to twelve drops; from eighteen and upwards, twelve drops. These doses may be repeated once in eight or twelve hours, diluted with thick gruel or barley water. A peculiar sensation about the eyes and face is a criterion of the medicine having produced its effect on the system, and it is not proper to augment the dose or much longer to persist in its use. The diseases in which the arsenical solution has been most successfully employed, are intermitting and remitting fevers, periodical head-ach, dropsy,

hydrophobia, and obstinate cutaneous eruptions. Recently it has been successfully administered in typhus fever, and in lock-jaw occasioned by wounds. In this last disease the dose must be larger than usual, and repeated every half hour until its effects be ascertained. Dr. Ferriar strongly recommends this medicine in hooping cough after blisters and emetics have been employed. He begins with one drop daily for an infant, and for children under seven, two drops, repeated according to the symptoms, intermitting the use of it for a day or two.

Artificial Mineral Waters.

The immense improvements in the science of chemistry have enabled chemists to analyze with great accuracy the natural mineral waters, and to ascertain their nature and even the proportions of the several ingredients which they contain. "In the manufacture, therefore, of artificial mineral waters, the original water is perfectly imitated by the addition of all the ingredients in the proper proportions; and the gas by a peculiar and very powerful apparatus is afterwards forced in till the waters acquire a degree of briskness and activity far surpassing any thing which they ever exhibited in nature." "Every species of mineral water whatever, can be prepared by art, but the principal ones that have been attempted in this country, are the *Ballston*, *Soda*, and the *Seltzer waters*."

Ballston Water.

"The Ballston water is well known in the United States as a gentle cathartic, an active diuretic, a remedy against gravelly complaints, a tonic to the stomach, and generally to the system; not to mention its efficacy against rheumatic and cutaneous complaints, when applied externally as well as internally. It remains only to be added, that the artificial Ballston water is found by experience to produce the effects of the natural water; it is, however, more powerful, and therefore an equal quantity produces more marked effects." See Mineral Waters of Ballston and Saratoga, p. 675.

Soda Water.

"The soda water is not an exact imitation of any natural water, but has been directed by medical men as a remedy in a number of common and troublesome complaints. It is ordered in the Pharmacopœias and Dispensatories, and their prescriptions should be followed in this manufacture. It is a complete remedy against sourness of the stomach, commonly called heart-burn, and in most cases of indigestion and weakness of the stomach it is very useful; gradually restoring the appetite, and with it the tone of the organ; it is a preventive of many of the diseases of the stomach and

bowels which proceed from acidity, and, for the same reason, it often removes or prevents the sick head-ach.

"As a palliative, and even a remedy, in some cases of urinary calculi and gravelly complaints, it is preferable to the Ballston water. It may prevent, arrest, retard, or remove the complaint according to circumstances.

"The soda water is also a very refreshing, and to most persons a very grateful drink, especially after heat and fatigue, and may be made a complete substitute for the beverages of which ardent spirits form a part. With wine and sugar it is very grateful."

The soda water is made by dissolving two ounces of the carbonate of soda in ten pounds of pure water, and afterwards combining with it the carbonic acid gas to the fullest extent. This operation is performed by a powerful apparatus, affording so great a pressure as to be capable of impregnating the liquid with no less than five, or even six times its bulk of carbonic acid gas. The water should be afterwards preserved in glass vessels well closed, and kept as cool as possible.

Seltzer Water.

"The Seltzer water has long been known, and is one of the most famous of the natural mineral waters of Europe. On account of its agreeable taste and exhilarating effects, it is largely used at table, and as a beverage, at all hours. It is a diuretic, and possesses considerable efficacy in nephritic and urinary complaints; it is very useful against bilious and dyspeptic affections, and in many cases of cutaneous eruptions.

"It possesses a peculiar power of allaying feverish irritation, and has done much service in slow hectic fevers; it mixes well with milk, and is thus used with advantage by hectic patients. It is also used with sugar and wine."

For the preceding quotations I am indebted to "Conversations on Chemistry." Appendix—New-Haven edition. The following is from the Emporium of Arts, &c. by Thomas Cooper.

"The best method of combining the Seltzer water with a laxative proportion of the purgative salts, is the following; which will enable every body to make, at will, a mineral water, impregnated with cathartic qualities in any proportion that the palate will bear, or the bowels will require, combined with the lively, sparkling qualities of the Seltzer water. Take of supercarbonate of soda, or even the common carbonate, twenty grains, of the common carbonate of magnesia as much, put them into a strong black quart bottle; fill it nearly, but not quite full of water; having previously ready a cork that will fit it. Pour in the quantity of strong vitriolic acid, that you know from previous experiment will barely neutralize that quantity of saline matter. Cork the bottle, and tie down the cork instantly. The carbonic acid gas will thus be combined with a solution of Glauber's and Epsom salts, which must

be kept in a cool place. In the same manner the dose may be altered or diminished, or sulphate of iron, in the proportion of three or four grains, may be added if the symptoms of the patient require it, and a mineral water produced more efficacious than any that nature presents to us.

"As to the ærated waters generally, I am of opinion that every family should have an apparatus of the kind, in order to make them at any time, for the purpose of medicine and salutary beverage. I found them in a recent complaint of more service than any other preparation. Owing to extreme debility, no medicine or food would stay on my stomach until I drank the Seltzer and soda waters; and I am of opinion, that by their use, sickness may be avoided, and of course, health preserved." JAMES CUTBUSH.

Eau Medicinale d'Husson.

This much celebrated composition was discovered about fifty-five years ago by M. Husson, a French officer, and has been so highly famed for its almost infallible powers in the cure of gout, as to command the enormous price of from one to two crowns a dose; and it still retains its high reputation in England, and in various parts of the European continent. This remedy is considered as producing a specific effect in removing the paroxysms of gout, as often, and almost as soon as they occur; scarcely an instance of its failure having yet been known in practice. For more particular information respecting this subject, reference may be had to American New Dispensatory, 2d edition, p. 361. Numerous attempts have been made to discover the composition, or to devise a substitute for eau medicinale. "Mr. James Moor, surgeon, London, has succeeded in compounding a medicine, closely resembling the original medicine in smell, taste, and dose, in its evacuant powers, and finally in its property of relieving the gout so far as it has been tried. This medicine, whose identity with the specific is thus presumed on, is composed of three parts of the wine of white hellebore, and one of wine of opium. The above wine of white hellebore is prepared by infusing for ten days eight ounces of the sliced root of that plant in two pints and a half of white wine. The dose of the compound is from one to two drachms." The root of our own species of swamp hellebore has been found equally efficacious as the imported root.

This composition, since its promulgation, has been considerably employed in practice, and with the success anticipated by its sanguine advocates. In gout and rheumatism it has obtained a reputation in some degree proportioned to the original preparation of M. Husson. The dose above specified, however, is too large, as it is apt to irritate and induce nausea and vomiting. It is found more convenient to limit the dose to sixty or eighty drops, or increase as the stomach of the patient can bear; smaller doses twice in a day have on some occasions proved advantageous.

UNIVERSITY OF THE STATE OF NEW-YORK.

COLLEGE OF PHYSICIANS AND SURGEONS.

In the notice of the College of Physicians and Surgeons in the city of New-York, at page 30 of this work, the list of professors was given as it stood at the time it was printed. Since then, there has been a change, and we now give the list of the present professors.

John Augustine Smith, M. D. *on Anatomy and Physiology.*
Alexander H. Stevens, M. D. *on the Principles and Practice of Surgery.*
James F. Dana, M. D. *on Chemistry.*
Joseph M. Smith, M. D. *on the Theory and Practice of Physic and Clinical Medicine.*
Edward Delafield, M. D. *on Obstetrics and the Diseases of Women and Children.*
John B. Beck, M. D. *on Materia Medica and Botany.*

MEDICAL COLLEGE OF NEW-YORK.

John D. Godman, M. D. *on Anatomy and Physiology.*
Valentine Mott, M. D. *on Surgery.*
David Hosack, M. D. *on Theory and Practice, and Clinical Medicine.*
W. J. Macnevan, M. D. *on Materia Medica and Therapeutics.*
J. W. Francis, M. D. *on Obstetrics and Forensic Medicine.*

The arrangements for the course on Chemistry were not concluded when this went to press, September 15, 1826. The chair was to be filled in a few days.

TRANSYLVANIA UNIVERSITY.

The list of professors in the Medical School of Transylvania University, page 49 of this work, should stand as follows:—

Dr. Dudley *on Anatomy and Surgery.*
Dr. Caldwell *on the Institutes of Medicine and Clinical Practice.*
Dr. Drake *on Theory and Practice of Medicine.*
Dr. Richardson *on Obstetrics and the Diseases of Women and Children.*
Dr. Short *on Materia Medica and Medical Botany.*
Dr. Blythe *on Chemistry.*

ERRATA.

As the author resides at a distance from the city, the proofs could not be sent him for correction without greatly delaying the work; in consequence of which, and of the copy being forwarded in parcels as completed, some errors have occurred, which would otherwise have been avoided; viz. the insertion of "Book I." at the head of the pages from 190 to 217, and "Chapter XIII." at page 190, both of which should have been omitted.

Page 160, line 16 from top, for *imprudently* read *impudently*.—168, l. 18 from top, for *deceased* read *diseased*.—197, l. 18 from top, for *ecchymosis* read *ecchymoses*—l. 33 from top, for *willingly*, read *willing*.—225, lines 8, 9, 10 from bottom, add a period to each of the words Quinin, Vitriol, Zingib.—230, l. 12 from bottom, for *setting*, read *sitting*.—237, l. 13 from bottom, for *baracks*, read *barracks*.—240, l. 7, from bottom, for *either* read *ether*.—252, l. 20 from bottom, for *lyttæ*, read *lytta*.—264, l. 7 from top, for *mindereus*, read *mindererus*.—272, l. 18 from top, for *out*, read *ought*.—352, l. 14 from top, for *seventy-seven*, read *seventy severe*.—354, l. 10 from bottom, for *symptom*, read *system*.—355, l. 18 from bottom, between the words *symptoms* and *promptly*, add *were*—l. 12 from bottom, for *who*, read *which*.—378, l. 17 from top, for *confined*, read *confirmed*.—416, lines 2 from top, and 14 from bottom, for *Sendamore*, read *Scudamore*.—421, l. 4 from top, for *pacific*, read *specific*.—650, l. 16 from top, for *is a manner*, read *is in a manner*—l. 18, for *decoction*, read *doctrine*.—765, l. 10 from top, for poke-*wood*, read poke-*weed*.

INDEX.

A.

ABORTION - - - 699
Absorbent laxative mixture 773
Acidities in children - 727
Acne - - - - - 464
Affusion of cold water in fevers 201
After pains - - - 704
Ague - - - - 217
cake - - - 224
Air, various qualities of 67
of mines and wells, when stagnated, proves fatal 71
Aerial poisons. See noxious vapours - - - 522
Alkaline solution - - 776
Alum curd - - - 775
whey - - 778
Amaurosis - - - 535
Amenorrhœa - - 512
Anecdote of Charles 5th - 9
of a celebrated empiric 163
of the court of Madrid 9
of Vesalius 137
of the University of Salamanca 9
Anasarca - - - 619
Anaphrodisia - - 546
Anger, effects of - - 97
Angina maligna - - 429
pectoris - - 577
remedy for - 773
Aphthæ - - - 729
Apoplexy - - - 525
Apples, properties of - 93
Apricots, properties of - 93
Arachne, properties of - 763
cures intermittents 225
Ardent spirits, effects of 102
Arrow root jelly - - 778
Arsenic, poisonous effects of 686
Artificial mineral waters 782
Arthritis - - - 412
Ascites - - - 630
Asparagus, properties of 92
Asthma - - - 585
Asphyxia - - - 518
Aspinwall, Dr. William - 14
Atmosphere, constituent parts of 67
Atropa belladonna, poisonous effects of - - - 688
Atrophy - - - - 614
Æsculapius - - - 3
Aura epileptica - - 568

B.

Bacon, properties of - 87
Ballston waters - - 782
properties of, and diseases in which they may be employed 755
Bard, Dr. John - - 12
Barley water - - 778
Barnet, Dr. William - 13
Baron Haller - - - 9
Bathing, cold and warm 750
Baths - - - - 756
Beef, properties of - - 86
tea, how prepared 777
Beer, a good beverage - 85
Bees, stings of - - 691
Birds' flesh, its properties 89
Bites of rabid animals - 601
a mad dog, &c. 601
a rattlesnake - 690
a viper - - 690
Bladder, inflammation of 401
stone in the - 640
becomes paralytic when over distended 124
Bilious remittent fever - 229
colic - - - 591
Bleeding from the nose - 466
from the lungs 468
Blenorrhœa - - - 491
Blistering in fevers - 210
Blistering plaster - - 780
Blood, circulation of discovered by Dr. William Harvey 6
shot eye - - 536
vomiting of - - 472
Bloody urine - - - 473
Boiled flour - - - 779
Bogart on angina pectoris 578
Bond, Dr. Thomas, notice of 12
Botanic garden at Cambridge 38

Boylston, Dr. Zabdiel; first inoculator of small-pox in New-England - - - 11
Boylston, W. N. Esq. makes a donation of medical books to Harvard University, 34; appropriates a fund for the improvement of medicine 35
Brain fever - - - 121
Brain, inflammation of - 286
Bread, properties of - 90
Breast, female, inflammation of 706
abscess of 707
cancer of 667
Buboes - - - - 653
Burns and scalds - - 683
Butter, properties of - 88

C.

Cabbages, properties of - 92
Cachexiæ - - - 614
Cadwallader, Dr. - - 12
Calculi - - - - 640
Calomel pills - - - 772
Calvin, John, accessory to the death of Servetus - 6
Caligo - - - - 536
Cancer - - - 667
doctors, impositions of 159
a fatal instance 672
in the mamma, a remarkable instance of the operation for 673
Candidates for examination by Mass. Med. Society 42
for fellowship, how admitted - 4
Canker of the mouth - 773
Carbo ligni, charcoal - 766
Cardialgia - - - 546
Carditis - - - 334
Carrots, properties of - 92
Catalepsia - - - 572
Catalogue of periodical journals on medicine published in the United States - - 63
Cataract - - - 536
Catarrhus - - - 296
Catarrh, epidemical - 302
Cathartic pills - - 771
Catheter, how introduced 508
Celery, qualities of - - 92
Cephalalgia spasmodica 575
Cephalanthus occidentalis, or button bush - - - 762
Cephalea - - - 574
Chalmers, Dr. Lionel, notice of 13
Chancres - - - 651
Chapman, Dr. notice of - 25
Charcoal, how prepared, and uses of - 766
vapours, dangerous effects of - 72
Character and qualifications of a physician - - 141
Cheese, qualities of - 89
Cherries, qualities of - 93
Chicken pox - - - 449
Chilblains - - - 746
Childbirth, treatment of women in - - - 702
Children, management of 718
clothing of - 718
food of - - 719
weaning of - 721
diseases of - 722
retention of meconium 722
red, white and yellow gum - - 723
excoriations - 725
acidities, gripes, &c. 727
thrush, or aphthæ 729
tumours of the scalp 732
vomiting - 733
dentition, or teething 735
cholera infantum 740
canker of the mouth 731
croup - - 307
hydrocephalus 625
convulsions - 563
hooping cough 324
rickets - - 638
worms - - 691
tinea, or scald head 744
chilblains - 746
milk blotches - 774
crusta lactea - 724
venereal disease 747
Chisholme, Dr. strong advocate for mercurial practice 18, 213
Cider, a salutary beverage 85, 110
Chlorosis - - - 514
Chocolate, properties of 94
Cholera morbus - - 479
infantum - 740
Chordee - - - 492
Chorea - - - - 565
Churchyards, pernicious effects of 72
Clavus hystericus - - 597
Cleanliness, importance of 128
Clothing, observations on 129
Cobweb, cures intermittents 225
description and properties of - 763
Coakum, pokeweed - 765

Coffee, properties of - 94
Colchicum autumnale - 763
Cold and warm bath - 750
Cold cream - - - 775
Cold water, affusion of in fevers 201
Cold, effects of - - 523
decoction for - 768
Colica - - - - - 590
Colic, bilious - - - 591
flatulent - - 591
hysteric - - 594
Colica pictonum - - 594
Collyria - - - 774
Compound powder of ipecacuanha - - - - - 775
Compound aloetic pills - 772
Consultations, observations on 146, 149
Consumption, pulmonary 356
causes of 357
Contagion, definition of 165, 167
causes by which it is excited into action 179
method of destroying by the mineral acids - 182
means of personal preservation from 184
Contagious fevers, how communicated - - - 175
Convulsio, or convulsions 563
Corns, plaster for - - 781
Corpulence - - - 616
Corsets, dangerous effects of 131
Costiveness - - - 504
Cough, common - - 299
recipes for 767, 768, 771
hooping - - 324
recipes for - 769
Coup de soleil - - 528
Cow pox - - - 449
when first introduced 19
prophylactic efficacy established - 453
directions for collecting vaccine matter 457
signs of true vaccination - - 458
Cramp in the legs - - 599
Cream, properties of - 88
Croup - - - - 307
Crusta lactea - - 724
Cucumbers, properties of 93
Cutanei - - - - 423
Cummings, Dr. John, his donation to Harvard University 32
Cynanche maligna - - 429
parotidœa - 295
tonsillaris - 381
trachealis - 307
laringæa - 305
Cystitis - - - - 401

D.

Dalhound Lawrence, opposed small-pox inoculation in 1720 11
Deafness - - - 538
Dentition - - - 735
Derby, E. H. Esq. his donation to Harvard University 34
Diabetes - - - 485
Diaphragmitis - - 334
Diarrhœa - - - 482
Dietetics - - - 67
Delirium tremens - 121
Discutient plaster - 780
Diseases of women and children 697
of the female breast 706
of pregnancy - 697
of the puerperal state 697
Dissection, first in America 27
Dissertations, inaugural - 57
Dissertation on mercurial practice - - - - - 41
District medical societies - 40
Dock-root ointment - 776
Dog, symptoms of madness in 602
bite of - - - 602
Doses of medicine - - 760
Dover's powder, preparation of 775
Drink, what kinds most proper 85
Dropsy - - - - 619
of cellular membrane 619
of the belly - - 630
of the brain - - 625
of the chest - - 628
of the uterus - - 634
Drowned persons, treatment of 519
Drunkenness an odious vice 101
horrid effects of 102
how to be treated 115
examples of cures 118
Drunken physician, an odious character - - - 146
Douglas, Dr. William on small-pox in 1722 - - - 11
Dysentery - - - - 262
mixture for - - 774
Dyspepsia or indigestion - 540
Dysmenorrhœa - - - 518
Dysuria - - - - 510

E.

Ear, inflammation of - - 292
Eau medicinale d'Husson 421, 784
Eggs, qualities of - - 89
Emphysema - - - 617
Empirics, their character and conduct - 157
anecdote of a celebrated one - 163
Emulsion for catarrh and cough 767
Enuresis - - - - 487
Enteritis - - - - 388
Epidemic diseases - - 165
Epidemical catarrh - - 302
Epilepsy - - - - 567
Epistaxis - - - - 466
Erithema mercurale - - 659
Eruptions, cutaneous, *See herpes* 460
Erving William a founder of the med. school of Harvard University - - - 32
Erysipelas - - - 282
Essence for head ach - 767
Evacuations - - - 123
by stool - 123
by urine - 124
by perspiration 124
by saliva - 127
Excitability - - - 73
Exercise, importance of - 77
Excoriations in children - 725
of the nipples 709
Exhalations from putrid substances - - - 168
Eyes, inflammation of - 288
blood shot specks or spots 536
Eye-waters - - - 774

F.

Fasting long injurious - 84
Fear, effects of - - 96
Febrifuge mixture - - 769
powder - - 770
Fees, medical - - - 152
Fermented liquors, properties of 85
Fever, definition of - - 195
division of - - 196
causes of - - 198
symptoms of - - 199
continued - - 238
inflammatory - 233
intermittent - - 218
remittent - - 226
bilious remitting - 229
brain - - - 196
hectic - - - 196
Fever, miliary - - 462
milk - - - 705
puerperal or child-bed 710
scarlet - - - 426
typhus mitior, or nervous 237
typhus gravior, putrid 253
typhus icterodes, yellow 268
spotted or petechial 22, 335
Fish properties of - - 90
Fisher, Dr. Joshua, his practice in croup - 311
in cholera morbus 480
in nervous colic 596
in worms - 695
his opinion of stramonium - 570
Fistula lacrymalis - - 537
Flannel should be worn next the skin - - - 131
Fluor albus - - - 488
Food and drink, observations on 81
Fowler's arsenical solution 781
Francis, Dr. his treatment of lues vinerea - - - 660
Friction, utility of - - 80
Frost bitten, how treated - 523
Fungus hæmatodes - - 666

G.

Gale, Mr. Benjamin, notice of 12
Galen, notice of - - 4
Gallup, Dr. objects to mercury and to opium in fevers 214, 216
Garden, Dr. notice of - 13
Gargle for canker - - 773
Garlic, virtues of - - 92
Garnet, Dr. his account of excitability - - - 73
Gastritis - - - - 386
Gastrodynia - - - 540
Gelston, Dr. Samuel, notice of 13
Gleet - - - - 497
Globus hystericus - - 597
Glossitis - - - 379
Gonorrhœa, virulent - - 491
simple - - 498
Goulard's extract of lead - 779
Gooseberries, properties of - 93
Gout - - - - 412
misplaced - - 414
retrocedent - - 414
atonic - - - 413
Gravel and stone - - 640
Gregory, Dr. notice of - 155
Green sickness - - 514
Grief, its pernicious effects - 96
Gripes in infants - - 727

Gutta rosea - - - 464
wash for - 773
serena - - - 535

H.

Hæmatemesis - - - 472
Hæmaturia - - - 473
Hæmoptysis - - - 468
Hæmorrhois - - - 477
Harvey, Dr. William, discovers the circulation of the blood 7
Harvard university, med. school of 32
Haygarth Dr. his rules for preventing infection - 180
Hayward, Dr. Samuel - 14
Head should be guarded against the solar heat - - 134
Head-ach - - - 574
periodical - - 577
nervous - - 376
sick - - - 576
Heart, its wonderful powers 136
Heat, effects of - - 73, 74
Hemiplegia - - - 529
Hemicrania - - 574
Hemlock, poisonous effects of 688
Henbane poisonous - - 688
Hepatitis - - - 393
Hernia - - - - 675
strangulated - - 676
humoralis - - 496
Herophilus, notice of - - 4
Herpes - - - - 460
farinosus - - 460
pustulosus - - 460
miliaris - - - 460
exedens - - 461
Hersey, Ezekiel } their donation
Abner } to Harvard University 32
Hippocrates notice of - - 3
Historical sketch of medicine 1
Hope, a mild passion - - 95
Hooping cough - - 324
remedies for 769
Holyoke, Dr. Edward, notice of 39
Hornets, stings of - - 691
Horehound - - - 765
Hosack, Dr. David, his views of contagious diseases 167, 173
on contagion of yellow-fever - - 173
his mode of treatment in croup - - 310
in consumption - 368
in syphilis - - 661
on angina pectoris 580, 583
Hosack, Dr. on impotency 546
his nosology - 190
Hospital for small-pox, first in New-England - 13
General, mode of admitting patients 761
Hull, Dr. A. G. invents the best truss - - - - 678
Hunter, Dr. John, his remarks on noxions exhalations 170
Hydrocele - - - 635
Hydrocephalus - - 625
Hydrometra - - - 619
Hydrophobia - - - 601
Hydrops - - - 619
cellularis - - 619
cerebri - - 625
abdominis - - 630
thoracis - - 628
spinæ - - - 627
uteri - - - 634
ovarii - - - 634
testis - - 635
articuli - - 638
Hydrothorax - - - 628
Hypochondriasis - - 610
Hysteria - - - - 597

I.

Icterus - - - - 499
Iliac passion - - - 591
Impotency - - - 546
Incontinence of urine - 489
Incubus - - - 610
Indigestion - - - 540
Indigo weed - - - 761
Infants, management of - 718
diseases of - - 722
remittent fever of 733
Infectious diseases - - 165
Infection may be communicated by means of clothing, bedding and uncleanliness, prevention of - - - - 176, 181
Inflammatory fever - - 233
Inflammation of the brain - 286
of the eyes - 288
of the ear - 292
of the lungs - 331
of the liver - 393
of the stomach 386
of the intestines 388
of the kidneys 399
of the bladder 401
of the spleen 397
of the mesentery 383
of the omentum 383

Inflammation of the pancreas 398
of the peritoneum 385
Inflammatory sore-throat - 381
Influenza - - - - - 18
description and treatment of - - 302
Inoculation of small-pox - 445
of cow-pox - 455
Intemperance - - - 101
Intermittent fever - - 217
Intumescentiæ - - - 616
Iodine - - - - - 780
Ischuria - - - - - 506
Itch - - - - - 447
ointments for - - 776

J.

Jackson, Dr. James, distributes vaccine matter 20
on cholera infantum 740
on dentition - 735
on weaning children 721
on tic douloureux 556
Jaundice - - - - - 499
Jenner, Dr. Edward, discovered cow-pox - - - - 19
Jones, Dr. John, notice of - 13
Joy a pleasing passion - - 95

K.

Kearsley, Dr. John, notice of 13
King's evil - - - 646
Kissam, Dr. Samuel, notice of 27
Kuhn, Dr. Adam, notice of - 24

L.

Lamb, properties of - 87
Leeches, description and uses of 749
Laryngitis - - - 305
Lethargy - - - 528
Leucophlegmatia - - 619
Leucorrhœa - - - 488
Library, medical - - 152
Lientery - - - 482
Lime water, how made - 779
Lining, Dr. John, notice of 13
List of books for candidates to read - - - - - 64
Lithiasis - - - 640
Liver, diseases of - - 393
Lloyd, Dr. James, notice of 38
Lightning, fatal effects of 523
Lochial discharge - - 705
Lock-jaw - - - 550
Longevity, means of obtaining 136
Love, a strong passion - 96
Lues venerea - - - 650
Lumbago - - - 410
Lungs, inflammation of - 331
Lycopus Europæus - 765

M.

Malt liquors - - - 110
Malignancy, definition of 197
Malignant pleurisy - - 321
Marcores - - - 614
Marrion, Dr. Joseph, notice of 11
Marsh miasmata, cause of fevers 169
Marasmus - - - 614
Mastisis - - - 296
Mather, Cotton, patronized small-pox inoculation - 11
Means of medical instruction in our seminaries - - 57
Means of preserving health 136
in hot climates 186
Measles - - - - 423
Measures and weights used in medicine - - - 759
Meconium, retention of - 722
Medicine, origin of - - 3
Medical science, imperfection of 8
progress of, how retarded 9
Medical theories, numerous and fleeting - - - 8
Medical institution of Pennsylvania - 23
of New-York 27, 785
of Massachusetts 32
of Hanover - - 44
of Maryland - 45
of Connecticut 46
of western district of the state of New-York - - 47
of Ohio - - 48
of Transylvania 48, 786
of Vermont academy 48
of Maine - 49
of Rhode Island 50
of Vermont - 50
of Berkshire - 51
of South Carolina 52
of Jefferson college 53
of the Columbian college 53
of Auburn, state of New-York - 56
of the Valley of Virginia - - 56
Medical society of Mass. - 39

Medical society of Mass., annual meetings - 40
counsellors - 40
censors, their meetings for examination of candidates 40
qualifications of candidates for admission - - 42
officers of the society 44
Medical college of Massachusetts, description of 36
of New York - 786
Medical publications in the United States - - - 57
Medical fees, how regulated 152
prescriptions - 760
libraries recommended 152
Melancholia - - - 610
Menorrhagia - - - 474
Mercury in fevers, observations on - - 212
adopted in yellow fever 213
Middleton, Dr. Peter, notice of 13
Miliaria, miliary fever - 462
Milk fever - - - 705
Milk, properties of - 88
Milk diet recommended - 84
Military surgeons and physicians of the revolutionary army, examinedby a medical board in 1775 15
names of those who served 15
Miller, Dr. Edward, notice of 57,171
Mineral waters of Ballston and Saratoga - - - 755
Miner, Dr. Thomas, his definition of malignancy 197
his treatment of nervous fever - 245
his essay on typhus syncopalis - 351
Miopia - - - - 537
Mitchell, Dr. John, notice of 12
Dr. Samuel L. notice of 57, 171
Morgan, Dr. John, notice of 24
Mumps - - - - 295
Muscles, qualities of - 90
Mustard whey - - 778
Mutton, properties of - 87

N.

Nephritis - - - 399
Nettle rash - - - 439
Nervous diseases - - 518
Neuralgia - - - 554
Neurosis - - - 518
Nichols, John, Esq. donor to the medical school of Harvard University - - - 34
Nightmare - - - 610
Non-naturals - - 67
Norcum, Dr. on remittent fever 230
Nurses, qualifications of - 151
Nostrums, absurdity of - 162
Noxious vapours - - 522

O.

Oats, properties of - 91
Obstipatio - - - 504
Odontitis - - - 293
Ogden, Dr. on malignant sore throat - - - 13
Ointment for chronic sore eyes, and cutaneous eruptions 780
for the itch - - 776
Ophthalmia - - - 288
Opisthotonos - - 550
Onions, qualities of - 92
Opium, poisonous effects of 689
Œsophagitis - - - 385
Osgood on yellow fever - 275
Otitis - - - - 292
Oysters, properties of - 90

P.

Palsy - - - - 529
Paralysis - - - 529
Pancreatitis - - 398
Paracusis - - - 538
Paracelsus, eccentric character 5
Paraplegia - - - 529
Paraphimosis - 492, 652
Parsley - - - - 92
Parsnips, properties of - 92
Parotitis - - - 295
Passions, observations on 95
Pastry, bad qualities of - 91
Patent medicines impudently palmed upon the public 160
Peaches, properties of - 93
Pears, properties of - 93
Pease, properties of - 91
Pemphigus - - - 440
Persons apparently drowned 519
apparently dead from lightning - 523
apparently dead from noxious vapours 522
Pertussis - - - 324
Pericarditis - - 334
Peripneumony, or pneumonia 331

Peripneumonia notha - 314
typhodes 321
Perspiration, insensible - 124
Peritonitis - - - 385
Pestis tropicus - - 268
Pharyngitis - - - 384
Phimosis - - 652, 492
Phlegmasia dolens - 402
Phlegmasiæ - - - 279
Phlogosis, or phlegmon - 279
Phrenitis - - - 286
Phthisis pulmonalis - 356
Physicians, qualifications and duties of - - - 141
Phytolacca decandra, poke weed 765
Piles, description and cure of 477
Pills, cathartic - - 771
digitalis - - 771
fœtida, with opium 771
chalybeated myrrh 772
of calomel - - 772
compound 772
aloetic compound - 772
Plummer's - - 772
saturnine anodyne - 772
for cough - 769, 771
Pimpled face - - 464
Plague, contagion of - 176
Plaster, discutient - 780
for lumbago, sciatica, scaldhead, ringworm, and corns - 781
Pleuritis, (pleurisy) - 328
Plums, properties of - 93
Poisons, various kinds of 686
Pork, properties of - - 87
Polysarca - - - 616
Potatoes, wholesome food 91
Pregnancy, and its concomitant diseases - - - 697
Primitive inhabitants, their condition - - - 2
Pringle, Sir John, on contagious diseases - - - 168
Profluvia - - - 465
Progress of medicine in America 23
Puerperal fever - - 710
Pulmonary consumption - 356
Putrid and malignant fever 253
sore throat 429
remedy for 773
Pyrosis - - - - 540

Q.

Quacks, their conduct displayed 157
Quarantine regulations necessary - - - 181, 183
Quincy - - - - 381

R.

Rabies - - - - 601
Rachitis, (rickets) - - 638
Raddishes, properties of - 92
Rand, Dr. Isaac - - 14
Rattlesnake, bite of - 690
Remittent fever - - 226
of infants 733
Rheumatismus - - 406
Rheumatism, acute - 406
chronic - 410
Rice, a nourishing food - 91
Ringworm - - - 462
Rubeola - - - 423
Rupture, treatment of - 675
Rush, Dr. Benjamin, notice of 24, 25, 156, 171, 184
on yellow fever 267 to 274

S.

Sago - - - - 779
Salads, properties of - 91
Saliva - - - - 127
Sanguinaria canadensis - 764
Saricella - - - 449
Scabies - - - - 447
Scalds and burns - - 683
Scald head - - - 744
Scarlatina - - - 425
anginosa - 427
maligna - 429
Scarlet fever - - - 426
Scirrhus and cancer - 667
Scrofula - - - 646
Scurvy - - - - 665
Seltzer water, preparation of 783
Servetus, Michael, notice of 6
Shecut, Dr. on contagions and infections 166, 188
his syllabus 166
on yellow fever 275
Shippen, Dr. William, first American lecturer - - 24
Shortsightedness - - 537
Shower bath - - - 750
Sleep, observations on - 99
Small-pox - - - 441
inoculation - 445
Smoked ham, qualities of 87
Soda water - - - 782
Solution, alkaline - - 776
emetic tartar - 770
Sophora tinctora, description and virtues of - - 761
Spasmi - - - - 550
Spinage, properties of - 91
Spina bifida - - - 627

Splenitis - - - 397
Spleen, inflammation of - 397
Spotted fever - - 22, 335
Steam bath - - - 757
Sternalgia - - - 577
Stings of bees and hornets - 691
Stomach, inflammation of - 386
Stone in the bladder - 640
Strabismus or squinting - 537
Strawberries, properties of - 93
St. Anthony's fire - - 282
St. Vitus's dance - - 565
Strangury - - - 510
Styptic tincture - - - 774
Stroke of the sun - - 528
Sugar maple affords a wholesome drink - - - 111
Suppressionis - - - 498
Sulphate of quinine - - 764
Syphilis - - - - 650
distinct disease from gonorrhœa - 650
may be communicated from parents to children - - 663
remarkable instance of a woman communicating and receiving the infection by drawing the female breast - - 664
pseudo syphilis - 664
Suppression of urine - 506
Sydenham, notice of - 141
his disinterested sentiments - 155
System of nosology - - 190
Syllabus of contagion and infection - - - - - 166
Syncope - - - - 539

T.

Tape worm - - - 696
Tar water - - - 775
Tea, observations on - 93
Teething - - - 735
Tenant, Dr. notice of - 12
Tetanus - - - - 550
Tetters, *see herpes* - - 460
Thatcher, Thomas, notice of 10
Theories, medical, revolutions of 8
Theoretical systems adopted in our seminaries - - 58
Thermometer, moral and physical one - - - 105
Thompson, Dr. notice of - 13
Tic douloureux - - - 554
Tinea capitis - - - 744
Tincture guaiacum - 767
Toast and water - - 778
Tobacco, injurious effects of 139
Tongue, inflammation of - 379
palsy of - - 530
cutting of - - 732
Tonsillitis - - - 381
Tooth-ach - - - 293
Trachitis - - - 307
Truss, the best kind and how applied - - - 678, 679
Tumours on the scalp of infants 732
Turkies, properties of - 89
Turnips, qualities of - - 92
Tussis epidemica - - 18
Tympanites (tympany) - 618
Typhoid pneumonia - 23, 321
Typhus fever, how communicated - - 314
mitior - - - 237
gravior - - 253
icterodes - - 268
syncopalis - - 351

U.

Ulcus - - - - 681
Ulcers, treatment of - - 681
venereal, how distinguished - - - 656
Universal remedy, absurdity of 162
Underwood, Dr. notice of - 724
Urine, suppression of - 506
incontinence of - 489
Uterus, cancer of - - 674
dropsy of - - 634
Urticaria - - - - 439

V.

Vaccine inoculation - 457, 459
Vaccina - - - 449
Variola - - - - 441
Varioloid disease - - 445
Valetudinarians cautioned against ardent spirits - 112
Veal, properties of - - 87
Vegetable acids salutary - 86
Vegetable poisons - - 688
Venereal disease - - 650
Venesection in fevers - 207
Venison, qualities of - 88
Vesalius, notice of - - 6
anecdote of - 137
Vesicular eruption - - 440
Viper, bite of - - - 690
Vitia - - - - 638
Vomiting - - - 733

W.

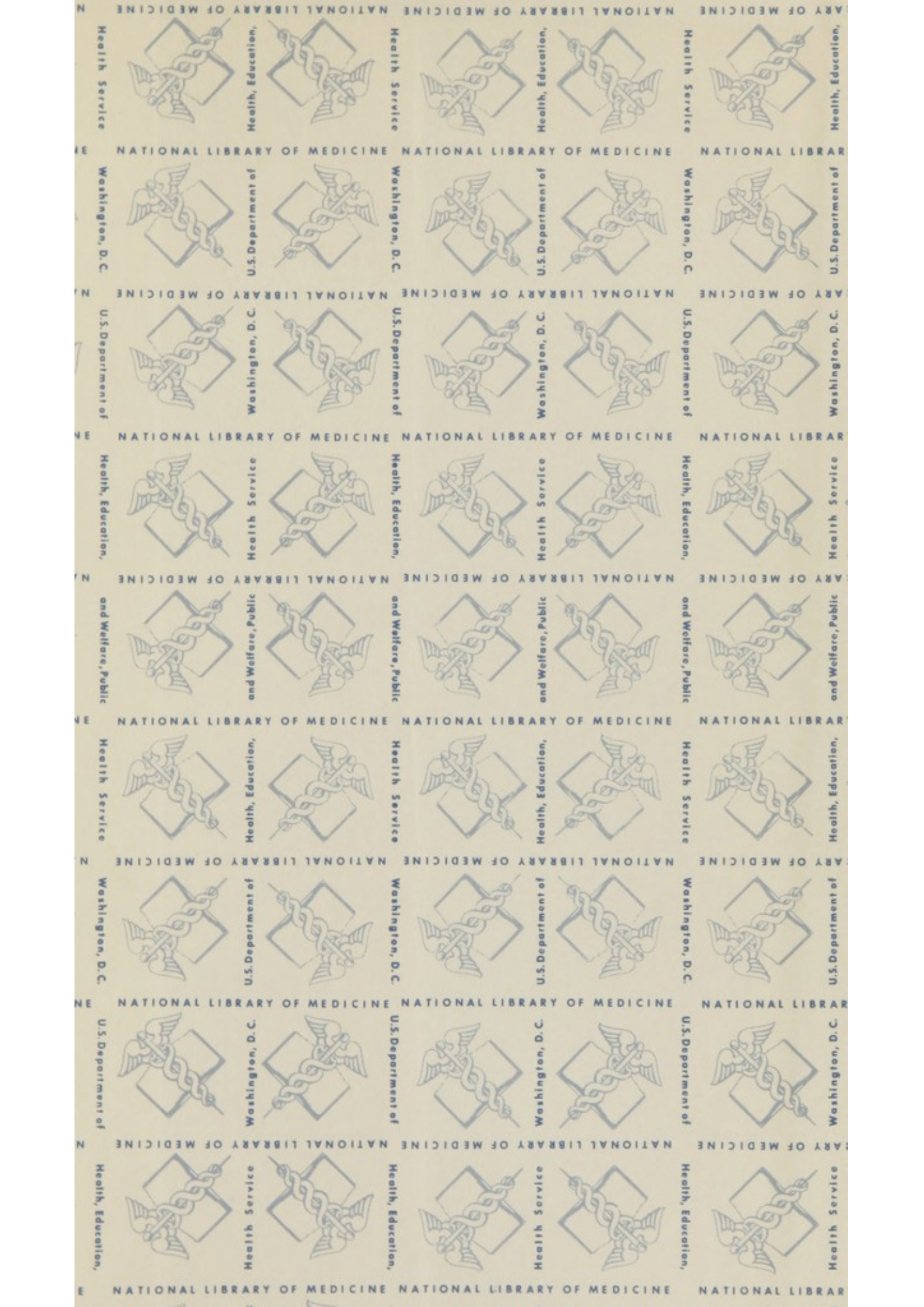
Waring, Dr. on yellow-fever 272
Warren, Dr. John, notice of 33
first professor in New-England - - 33
his definition of contagion and infection - 165
his dissertation on mercurial practice 41, 214
Water, cold, may be allowed in fevers - 207, 243
affusion of in fevers 201
of acetite of ammonia, saturated with carbonic acid gas - - 766
Watery or weeping eye - 536
Weaning children - - 721
Weights and measures used in medicine - - - 759
Wild indigo, description and virtues of - - - 761
Williams, Dr. Nathaniel, notice of - - - - 12
Willich, Dr. his remarks on nostrums, panaceas, &c. - 161
Wilson, Dr. his definition of contagion and infection 166
Wine, observations on the use of 85
Wine whey - - - 777
Wistar, Dr. notice of - 25
Worms - - - - 691

Y.

Yeast for medical purposes 770
use of in putrid fevers 259
in putrid sore throat 425
Yellow-fever in Philadelphia in 1793 - - 16
contention respecting its contagious nature - 16
depleting plan of treatment, by Dr. Rush - 17

F 46 2617 D


NATIONAL LIBRARY OF MEDICINE
Health, Education, and Welfare, Public Health Service
U.S. Department of Health, Education, and Welfare, Public Health Service
Washington, D.C.


NATIONAL LIBRARY OF MEDICINE
Health, Education, and Welfare, Public Health Service
U.S. Department of Washington, D.C.

NATIONAL LIBRARY OF MEDICINE
NLM 03278093 7